



**Psychosocial factors that influence peer interaction among francophone
adolescent learners in the selected high schools in the Western Cape, South
Africa**

By
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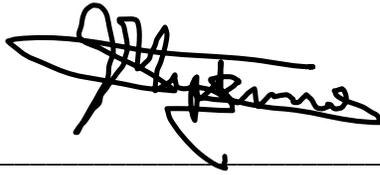
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November 2016

Declaration

I declare that *Psychosocial factors that influence peer interaction among francophone adolescent learners in the selected high schools in the Western Cape, South Africa* is my own work, that it has not been submitted for any degree or examination in any other university. All sources or quotations mentioned in this work have been fully acknowledged by the researcher.



Signed _____

Mukuna Kananga Robert

November 2016



Supervisor _____

Mokgadi Moletsane Kekae

November 2016

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Abstract

Immigrant adolescent learners are at risk for loneliness, isolation, rejection, and interpersonal distress from being perceived as outsiders or not belonging to the groups. This may be explained by host country or setting discriminating against them and also the immigrant adolescents' initial tentative engagement of host setting others. This study aimed to determine the relationship between psychosocial factors (psychological factors: emotional regulation, aggressiveness, sympathy, empathy; social support; and cultural differences), and peer interactions through demographic details (gender, age, and grade level) among francophone adolescent learners in the selected high schools in the Western Cape. It further purposed to determine the positive and negative factors that can affect their peer interactions at high schools. This study established the feasibility of recruitment procedures and developed a new model instrument of psychometric properties to measure the psychosocial factors scale and peer interaction scale for francophone adolescent learners in the selected high schools in the Western Cape Province.

As to the methodology, the current study used a mixed methods approach combining quantitative and qualitative approaches. To better conduct this approach, an explanatory sequential approach was used as design that started with quantitative data collection and followed up with qualitative data collection. Purposive and convenience sampling were used for data collection. With regard to quantitative perspective, this study employs psychological factors scale, social support from teachers, parents and peers scale, cultural differences scales, and peer interaction scale as instruments for data collection. The reliability evidence suggested an acceptable internal consistency of items, which value from .61 to .86. The factor analysis confirmed four latent factors for psychological factors (51.65 %) including emotional regulation, aggressiveness, sympathy, and empathy. Three latent factors extracted from three sources of social supports, which are teachers (53.438 %), parents (63.811 %), and peers (64.069 %). These social supports included affective support, informational support, and instrumental support. Three latent factors for cultural differences (52.35 %) included knowledge of culture, motivational culture, and behavioural culture. The study further used face-to-face semi-structured interviews and biographical information as instruments to collect qualitative data. The sample size comprised of

83 participants (females = 52, males = 31) aged of 14 to 19 years old at the high schools selected in the northern district in the Western Cape. The descriptive statistics, Chi-square, and correlation results demonstrate the relationship between psychosocial factors, peer interaction through age, gender, and grade level. Structural Equation Modeling (SEM) results suggested the goodness fit indices that can generate from a psychosocial factors model among francophone adolescent learners in the Western Cape. Finally, thematic results reveal cooperative learning, sharing ideas and answers, quality classroom climate, feeling a sense of school belonging, and peer support as positive factors, and peer rejection and peer bullying as negative factors affect peer interaction among francophone adolescent learners.



Dedication

To God, the Almighty

The creator

To Jesus Christ, my Lord and Saviour

To the Holy Spirit

Mukuna Mitshubu Starciel, Mukuna Mbuyi Merline, Mukuna Ntunka Dieu-Le-Veux, Mukuna

Mukonkole Glo-Di, my children

I dedicate this thesis.



Keywords

Adolescence

Cultural differences

Francophone learner

Inclusive education

Parental support

Peer interaction

Peer support

Psychosocial factors

Social support

Teacher support



List of abbreviations and acronyms

ADE: Association of the Development of Education in Africa

AFSP: Affective Social Support from Parents

AFSPS: Affective Social Support from Peers

AFST: Affective Social Support from Teachers

AG: Aggressiveness

BC: Behavioural Culture

CD: Cultural Differences

CFA: Confirmatory Factor Analysis

CFI: Comparative Fit Index

CIC: Commission on Integration and Cohesion

CQ: Cultural Intelligence

CSASI: Cary Statistical Analysis System Institute

df: Degree of freedom

DoE: South African Department of Education

DRC: Democratic Republic of Congo

EC: European Commission

EM: Expectation-Maximum

EMP: Empathy

ER: Emotional Regulation

ETDSA: Education and Training in a Democratic South Africa

GFI: Goodness-of-Fit Indices

H₀: Null Hypothesis

H_a: Alternative Hypothesis

HIV: Human Immunodeficiency Virus



INDS: Integrated National Disability Strategy

INSP: Information Social Support from Parents

INSPS: Information Social Support from Peers

INST: Information Social Support from Teachers

ISSP: Instrument Social Support from Parents

ISSPS: Instrument Social Support from Peers

ISST: Instrument Social Support from Teachers

KC: Knowledge of Culture

KMO: Kaiser Meyer-Olkin

LO: Life Orientation

M: Means

Max: Maximum scores

MC: Motivational Culture

Min: Minimum scores

NCES: National Committee on Education Support Services

NCSENT: National Commission on Special Educational Needs and Training

NEPI: National Education Policy Investigation

PCLOSE: p-value close fit

PF: Psychological Factors

PFS: Psychosocial Factors Scale

PIS: Peer Interaction Scale

RMR: Root Mean Square residual

RMSEA: Root Mean Square Error of Approximation

SD: Standard Deviations

SEM: Structural Equation Modeling



SPSS: Statistical Package for the Social Science

SRMR: Standardized Root Mean Square Residual

SSP: Social Support from Parents

SSPS: Social Support from Parents

SST: Social Support from Teachers

SYM: Sympathy

TLI: Tucker-Lewis Index

UDHR: Universal Declaration of Human Right

UK: United of Kingdom

UN: United Nations

UNESCO: United Nations Educational, Scientific and Cultural organization

USA: United of States of America

WCED: Western Cape Education Department

WP6: Withe Paper 6

ZPD: Zone of Proximal Development



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CHAPTER 1

GENERAL INTRODUCTION

1 Introduction

This chapter discusses the background to the study, the problem of the study, rationale and significance of the study. The research aims and objectives, research questions, and hypotheses, overviews of the pilot study and methodology, data analysis and data interpretation are also discussed in this study. This chapter presents the psychosocial development of francophone adolescents in high schools in order to understand the participants' expectations from this study. This chapter finally concludes with keywords and with a layout of the thesis.

1.1 Background to the study

In South African schools, immigrant adolescent learners from Africa experience diverse challenges which emanate from psychosocial factors (Vandeyar, 2010; Mahembe, 2012). Saravia-Shore and Garcia (2008) argue that immigrant adolescent learners often struggle with factors including a new medium of instruction, curriculum strategies that do not address their cultural and linguistic backgrounds, and fail to redefine their relationship in the new community with insufficient support from teachers, parents, and peers. Immigrant adolescent learners are increasingly at risk to low self-esteem, loneliness, isolation, rejection, interpersonal distress, discrimination, alienation, and trauma from being perceived as outsiders or from thinking of not belonging to the host groups in schools (McCarthy, 1998; Morse, 2005; Sattin-Bajaj, 2009). In fact, with the growing interest in psychosocial factors in developmental, social and educational psychology (Patterson, DeBaryshe, & Ramsey, 1989; Robbins, Lauver, Le, Davis, Langley, & Carlstrom, 2004), Oyenuga and Lopez (2012) determined psychosocial factors affecting the teaching and learning in secondary schools. They considered school, home and interests of students as factors. Their results revealed that these factors facilitated the teaching and learning of introductory technology. Halimi (2012) evaluated the sociological and psychological perspectives on foreign language acquisition and used attitude and motivation as variables of psychosocial factors to predict foreign language acquisition. Halimi's (2012) results found motivation and attitude to learning as factors contributing to the success of the learning process,

particularly to foreign language acquisition at schools. Mahembe (2012) sought to understand psychosocial experiences of immigrant learners in South African schools and used psychological factors including self-esteem, self-identity, self-efficacy, and confidence. She considered social factors which involve language, culture and peer relations to understand adjustment of immigrant learners to learning in a different cultural milieu.

In some cases, francophone adolescent learners are from countries where French, a colonial heritage, is their medium of communication. Example of some francophone countries are Guinea, Mali, Burkina-Faso, Niger, Ivory Coast, Senegal, Gabon, Cameroun, the Republic of Congo, and the Democratic Republic of Congo (DRC). Most of the remaining African countries are Anglophone. According to Kachru (2006), the socio-linguistic profile categorizes the use of English in different countries in terms of three circles. The inner circle consists of the native speakers of English language. The outer circle deals with speakers who use English as their second language in their daily communication. The expanding circle includes the speakers who use English as a third language for specific purposes and learn it as a foreign language, and this is where learners from francophone African countries could belong. In the context of this study, francophone adolescent learners use English as a medium of instruction in South Africa, an anglophone African country.

Over the years, schools have changed dramatically. There has been an increase of cultural, ethnic, and linguistic diversity (Jackson & Harper, 2002; Saravia-Shore & Garcia, 2008). This social setting primarily influences peer interaction. However, Donald, Lazarus, and Lolwana (2010) have emphasized that peer interaction should be encouraged at school for learners who have specific speech, language barriers and language difficulties which could obstruct their cognitive and social development within school. According to Bruce and Hansson (2011) and Bovey and Strain, (2003) children are led to the language, cognitive, emotional and social development through their peer interaction at school. Peer interactions can lead to psychological awareness and make peers perceive themselves to be in a group (Pennington, 2002:2 in Forsyth, 2006). In the next section, I will present the problem statement of the study.

1.2 Problem statement of the study

The Association of the Development of Education in Africa (ADE), United Nations Educational, Scientific and Cultural organization (UNESCO) and Institute for Education have reported that

learners who live in sub-Saharan Africa and are familiar with the opposition on take-up of African languages in schools (Ouane, & Glanz, 2005; Ouane & Glanz, 2010; Mulumba, & Masaazi, 2012) experience diverse challenges of language change in the curriculum. Furthermore, empirical evidence secured on the use of African languages as medium of instruction and the adaptation of curriculum to local culture in Africa countries (Benin, Burkina Faso, Guinea-Bissau, Mali, Mozambique, Niger, South Africa, Togo, Tanzania, Ethiopia, Ghana, D.R. Congo and Botswana) have suggested that indigenous learners improve their academic performance when they learn in their native languages (Nafukho, 2002; Ouane & Glanz, 2010; McIlwraith, 2013; Twumasi Ankrah, 2015; Nyika, 2015). Tadjó (2008) argues that rural children who speak their mother tongue or father tongue and who are later taught in French or English encounter a major obstacle to effective literacy. In most cases, children are unfamiliar with the languages of instruction in classroom; they often experience challenges in their academic and social achievement when teachers do most of the talking while children remain silent or passive participants (Alidou, Boly, Brock-Utne, Diallo, Heugh, & Wolff, 2006). Some evidence linked to this particular issue has been highlighted in local, national, and international literature (Clegg, 2007; Ngwaru, & Opoku-Amankwa, 2010, Desai, 2012). For example, in South Africa, during the apartheid era, English and Afrikaans were a medium of learning and teaching in schools. Pluddemann, Mati and Mahlalela-Thusi (2000:10) assert that in the Western Cape Province, these situations of linguistic diversity among learners are largely to be found in the historically “coloured” and historically “white” schools (English and/or Afrikaans medium) with the enrolment of increasing numbers of isiXhosa speaking learners. This means that English was quite weak and Afrikaans often non-existent among these African learners who could, in most cases, use isiXhosa language rather than English and Afrikaans to interact with peers. This probably compromised the ability of isiXhosa learners to interact more effectively with non-isiXhosa speaking peers. Harper and McCluskey (2003) have suggested that a better understanding of negative relationships between adolescent-adolescent interactions needs to be informed because it subsequently promotes social integration with learners and allows learners to be accepted by peers in inclusive schools.

However, the problem is that some learners, particularly francophone adolescent learners continue to experience peer interaction barriers in schools due to the fact that the language

(linguistic, paradigmatic, cultural and sociocultural knowledge) of instruction in most South African schools remains English. The scenario below illustrates a case in this regard:

Two years ago, a woman from Congo (DRC) and her adolescent secondary school daughter went to the office of the researcher. At the time, a student was carrying out research for the completion of his master's programme in Educational Psychology at the University of the Western Cape in South Africa. The woman had a concern and needed advice from the researcher. The concern was that her daughter, who could not interact properly with peers at school had been sent back home because the school authorities thought she had psychological problems and wanted her to return to school with a psychologist's report. According to the teacher, the child's interaction through the use of English language with peers at school and during lessons was not intensive, but when the adolescent learner had interview sessions in French with the researcher, she did not manifest any psychological impairment or mental deficiencies. She responded well to all the questions without the language barrier. The researcher could not find any major factors that affected her communication. When the researcher observed this learner while communicating with francophone peers, he also realized that interaction with peers was normal. This made the researcher associate the above-mentioned learner's failure to communicate with peers to other factors such as poor English language proficiency and inspired him to conduct research on psychosocial factors affecting peer interactions among francophone adolescent learners in some selected schools in the Western Cape Province. However, it is worth mentioning that the peer interaction situation depends on individuals and on the learning environment. If the learning environment is not motivating and tolerant of factors such as the learner's culture, language, gender differences, age differences and general ability which may allow the smoothness of the learning process and lead to good academic and social achievement, interaction with peers might be affected.

1.3 Rationale for the study

This study, which explores the psychosocial factors affecting peer interaction among francophone adolescent learners in the high schools in the Western Cape, fills the gap in literature on these factors in the South African context. The South African society is becoming more diverse and multicultural due to wars and migration and its schools are receiving immigrant learners from different ethnic, linguistic, cultural and socio-economic backgrounds and with diverse abilities (Frederickson & Cline, 2002:4 in Swart & Pettipher, 2005:4). Thus, it sounds crucial to understand how the peer interaction through English language among francophone adolescent learners could influence and help to enhance francophone adolescent learners' linguistic abilities, cognitive performance and psychosocial development. Peer interaction promotes healthy and emotional development during adolescence. Individuals who perceive themselves to have strong and close social contacts are less likely to suffer emotional distress, and they have better health and longevity than individuals without such contacts (Taylor & Broffman, 2011:13). Classroom interaction thus offers opportunities to receive comprehensive input and feedback to second language learners at the school (McKay & Schaetzel, 2008:2), and there is the need for joint work between parents, teachers, and learners to achieve a common understanding of psychosocial factors that affect peer interactions in the community.

Through this study, francophone adolescent learners can attempt to establish a sense of self-esteem, sense of belonging and to learn what others expect from them. They grow up within a heterogeneous family environment and should develop social skills such as helping, sharing, and negotiating with their peers. For example, they should learn appropriate and beneficial social behaviors such as communicating, cooperating, and respecting others' property.

Francophone adolescent learners are encouraged to create opportunities to develop friendship. Since this can help to positively accept the *other*, that is, people from different backgrounds, cultures, ethnic groups, languages, races, and beliefs. Strong peer interaction with classmates contributes to adjustment, and life satisfaction of learners. It enhances and impacts on academic achievement, and develops their self-esteem and motivates learners for school attendance. Social interactions and social support are the best established psychosocial resources for protecting mental and physical health (Taylor & Broffman, 2011:14). The results of this study address recommendations and strategies that can increase the engagement of adolescents and academic achievement with regard to peer interaction issues in South African schools contexts.

1.4 Significance of the study

This study is significant to the development of psychological field for several reasons. First, for francophone adolescent learners who have language-related problems which obstruct communication and interaction with peers, this study allows them to gain the enhanced ability to communicate to their teachers, school psychologists, counselors, social workers. Furthermore, this study sheds light on how to implement inclusive policies in education in South Africa and contributes to psychosocial well-being of new adolescent learners arriving from francophone countries. In this perspective, the study is a detailed tool for policy makers and other stakeholders in higher education in the Western Cape in particular and in South Africa in general to implement specific ways that can help francophone adolescent learners to share their motives with peers, express affection and help other learners in the school community. Further to this, the present study builds a bridge between policy makers and shareholders (learners, parents, etc.). The framework of this study is beneficial to those from rural to urban schools, from secondary or high school to the university level, and from school to a career orientation in order to adapt to new situations. It allows broader understanding of the psychosocial-related issues that affect peer interaction among francophone adolescent learners and provides preventive, promotional, and treatment mechanisms. This study is significant to provide clarity on the constructs of culture differences for francophone adolescent learners in a South African multicultural society. It contributes to the understanding of South African culture and its components, and this allows a better appreciation of the systems determining and causing specific patterns of peer interaction within cultures. As the norms, success and effectiveness of peer interactions in the global world depend on the ability of problem solving and adaptation to culture diversity circumstances (Darlington, 1996; Ang, & Van Dyne, 2008; Livermore, 2011). However, the best option of this ability is not to adapt all behaviours, but to select appropriate behaviours from well-developed repertoire of behaviours that are correct for different intercultural circumstances, and to generate new behaviour (Thomas, 2006:88). With regarding to the South African schools, francophone adolescent learners should demonstrate their strength of cultural differences that they can adapt to their interaction style involving others or peers from different backgrounds. The idea of cultural differences is enormously useful in school contexts as it helps to bring attention to the

diversities in the behavioural perspectives and apply cultural differences framework to the peer interactions.

1.5 Research questions

The study purports to answer the following main research question:

What is the relationship between psychosocial factors (psychological factors: emotion regulation, aggressiveness, sympathy, empathy; social support; and cultural differences), and peer interaction through demographic details (gender, age, and grade level) among francophone adolescent learners in the selected high schools in the Western Cape?

In order to answer this research question, the followings research sub-questions were posed:

1. What are the demographic characteristics of the sample of francophone adolescent learners in the selected high schools in the Western Cape?
2. What are the bivariate relationships between psychosocial factors (psychological, social supports from teachers, parents, peers, and cultural differences) and peer interaction by age among francophone adolescent learners in the selected high schools in the Western Cape?
3. What are the bivariate relationships between psychosocial factors (psychological, social supports, cultural differences) and peer interaction by gender among francophone adolescent learners in the selected high schools in the Western Cape?
4. What are the bivariate relationships between psychosocial factors (psychological, social supports, cultural differences) and peer interaction by grade level among francophone adolescent learners in the selected high schools in the Western Cape?
5. What is the Structural Equation Modeling (SEM) that can explain the interrelationship among psychosocial factors including psychological (emotional regulation, aggressiveness, sympathy, and empathy) and social supports (social supports from teachers, parents, peers) and cultural differences (behavioural culture, knowledge of culture, and motivational cultural)?
6. What are the positive factors that can lead francophone adolescent learners to interact with peers in the selected high schools in the Western Cape?

7. What are the negative factors that can prevent francophone adolescent learners to interact with peers in the selected high schools in the Western Cape?
8. How do francophone adolescent learners in high schools selected in Western Cape understand cultural differences?

1.6 Research aim and objectives

This study aims to examine the relationship between demographic detailed variables (gender, age, and grade level), psychosocial factors (psychological factors: emotion regulation, aggressiveness, sympathy, empathy; social support; and cultural differences), and peer interaction in the selected high schools in the Western Cape. In an effort to achieve this aim, the following research objectives were targeted:

- 1) To determine the demographic characteristics of the sample of francophone adolescent learners in the selected high schools in the Western Cape.
- 2) To determine the bivariate relationships between psychosocial factors (psychological, social supports from teachers, parents, peers, and cultural differences), and peer interaction by gender among francophone adolescent learners in the selected high schools in the Western Cape.
- 3) To determine the bivariate relationships between psychosocial factors (psychological, social supports from teachers, parents, peers, and cultural differences) and peer interaction by age among francophone adolescent learners in the selected high schools in the Western Cape.
- 4) To determine the bivariate relationships between psychosocial factors (psychological, social supports from teachers, parents, peers, and cultural differences) and peer interaction by grade level among francophone adolescent learners in the selected high schools in the Western Cape.
- 5) To develop a Structural Equation Modeling (SEM) that can explain the interrelationship among psychosocial factors including psychological (emotional regulation, aggressiveness, sympathy, and empathy) and social support (social supports from teachers, parents, peers) and cultural differences (behavioural culture, knowledge of culture, and motivational cultural).

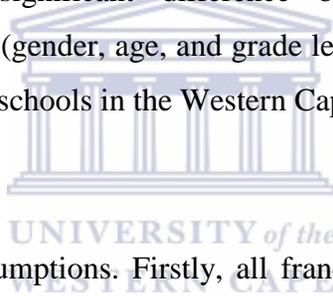
- 6) To determine positive factors that can lead francophone adolescent learners to interact with peers at high schools in the Western Cape.
- 7) To determine negative factors that can prevent francophone adolescent learners from interacting with peers at high schools in the Western Cape.
- 8) To determine how francophone adolescent learners in the selected high schools in Western Cape understand cultural differences.

1.7 Research hypotheses

Based on the proposed model describing the frame of the relationships among selected variables such as demographic details and psychosocial factors as they influenced peer interaction of francophone adolescents learners in the selected high schools in the Western Cape, this study tested both null and alternative hypotheses as follows:

- 1) There is no statistically-significant difference between peer interaction and demographic characteristics (gender, age, and grade level) among francophone adolescent learners in the selected high schools in the Western Cape.
- 2) There is no statistically-significant difference between emotional regulation and demographic characteristics (gender, age, and grade level) among francophone adolescent learners in the selected high schools in the Western Cape.
- 3) There is no statistically-significant difference between aggressiveness and demographic characteristics (gender, age, and grade level) among francophone adolescent learners in the selected high schools in the Western Cape.
- 4) There is no statistically-significant difference between sympathy and demographic characteristics (gender, age, and grade level) among francophone adolescent learners in the selected high schools in the Western Cape.

- 5) There is no statistically-significant difference between empathy and demographic characteristics (gender, age, and grade level) among francophone adolescent learners in the selected high schools in the Western Cape.
- 6) There is no statically-significant difference between knowledge of culture and demographic characteristics (gender, age, and grade level) among francophone adolescent learners in the selected high schools in the Western Cape.
- 7) There is no statistically-significant difference between motivational culture and demographic characteristics (gender, age and grade level) among francophone adolescent learners in the selected high schools in the Western Cape.
- 8) There is no statistically-significant difference between behavioural culture and demographic characteristics (gender, age, and grade level) among francophone adolescent learners in the selected high schools in the Western Cape.



1.8 Assumption of the study

The researcher presumed two assumptions. Firstly, all francophone adolescent learners in the selected schools in the Western Cape received social support from teachers that can influence their peer interactions. Secondly, all francophone adolescent learners in the selected schools in the Western Cape received social support from parents that can influence their peer interactions.

1.9 Overview of the pilot study

A pilot study was conducted prior to the main study in order to familiarize the researcher with the instrument and prepare him for the resolution of any potential difficulties that he would encounter during the main study data collection process. The pilot study chapter focused on establishing the feasibility of recruitment procedures and psychometric properties of a measure of psychosocial factors scale and level of peer interaction scale among francophone adolescent learners in the selected high schools in the Western Cape Province, South Africa. This chapter provided the definition and purpose of a pilot study along with its importance and expectations as far as the present study was concerned (see Sections 3.2, 3.3, and 3.6). However, the

researcher agreed with Thabane, Ma, Chu, Cheng, Ismaila, Rio, and Golsmith (2010:2-3), who suggested that a pilot study should be conducted for four broad groups of reasons including process, resources, management and scientific motives. These reasons were detailed in section 3.3.

This chapter also discussed the procedure the selection of the participants in this study. These participants were selected within three different high schools in the central district in the Western Cape following a number of steps based on ethical issues (see Section 3.9.5). Before administering the questionnaire, the instructions were largely explained to participants to guarantee that all of them understood the process. The sample size was made of 170 participants (N= 170: 94 from high school I, 59 from high school II, and 17 from high school III) and the participants were selected from the population through a systematic survey design. Psychosocial factors scale including psychological factors subscale, social support subscale and cultural differences subscale, and level of peer interaction scale were developed as instruments in this chapter (see Section 3.10.1.1.2).

It is worth to mention that psychological factors, emotional regulation, aggressiveness, sympathy, and empathy were extracted while three sources of social support, which were teachers, parents, and peers were extracted. This social support included affective support, informational support, and instrumental support. The testing instrument involved the evaluation of the reliability and validity of the mentioned instruments which were psychosocial factors for scale and level of peer interaction scale for francophone adolescent learners in high schools (see Section 3.11). The results of the pilot study concluded that the psychosocial factors scale and level of peer interaction scale demonstrated a reliability and validity evidence to measure psychological factors, social support from teachers, parents, and peers, cultural differences, and level of peer interaction among francophone adolescent learners in the selected high schools in the Western Cape. The psychosocial factors revealed a good internal consistency between individual items and this ranged from .61 to .86 (see Section 3.13.2.1.1, 3.13.2.4). The factor analysis confirmed four latent factors for psychological factors including emotional regulation, aggressiveness, sympathy, and empathy, which together explained 51.65% of the total item variance. Three latent factors extracted from the three sources of social support respectively explained 53.438 %, 63.811 %, and 64.069 % of the total item variance (see Section 3.13.2.2.2). These social supports included affective support, informational support, and instrumental support

whereas knowledge of culture encompassed three latent factors: knowledge of culture, motivational culture, and behavioural culture explaining 52.35 % of the total item variance. The next section provides an overview of the research design and methodology.

1.10 Overview of research design and methodology

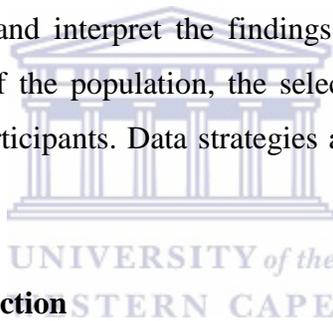
The researcher adopted a mixed method approach to data collection and data analysis in order to fully answer the research problem. A mixture of both quantitative and qualitative methods within a single study was employed since both kinds of methods complement each other (Teddlie & Tashakkori, 2009). In the quantitative phase, the researcher tested the relationship between psychosocial factors and peer interaction among participants, and conditioning biographical characteristics (gender, age and grade level) among francophone adolescent learners in some selected schools in the Western Cape. During the qualitative phase, which generally concerned the inquiry process, the researcher reported detailed views of the study in the natural setting of the participants in order to explore positive and negative factors which influence peer interaction among participants.

The use of quantitative and qualitative approaches is beneficial, but details on their combination in research are discussed in Section 4.3.1.4. Using a mixed methods approach has been acknowledged to be advantageous for various reasons including completeness of data, complementarity, and triangulation or greater validity (Klassen, Creswell, Plano Clark, Smith, & Meissner, 2012; Greene, Caracelli, & Graham, 1989; Brayman, 2006). In the present study, quantitative and qualitative approaches were relevant to determine the relationship between psychosocial factors and peer interaction affecting francophone adolescent learners at school, particularly to determine positive and negative factors affecting peer interaction among francophone adolescent learners in three high schools in the Western Cape.

1.10.1 Research design in mixed methods

This study used a mixed method perspective with an explanatory sequential design, which will be developed in detail in Chapter 4. This research design consisted of separately capturing the quantitative approach followed by the qualitative approach. The first phase was the exploration of the quantitative approach. The researcher first collected numerical data from psychosocial factors scales that were the psychological factors subscale, social support from teachers, parents

and peers subscale, and cultural differences subscale, and peer interaction scale from 83 (N = 83) participants in high schools. This was done in order to test whether there was no statistical difference in the relationship between psychosocial factors and peer interaction by gender, age, and grade level. Furthermore, it was done to test whether there was association between peer interaction and demographic characteristics (gender, age, and grade level) and whether there was a link between psychological factors (emotional regulation, aggressiveness, empathy, and sympathy) and demographic characteristics (gender, age, and grade level). The second phase, which was qualitative, was conducted as a follow-up to the quantitative results. It dealt with the use of biographical information, face-to-face semi-structured interviews at multiple cases to determine the positive and negative factors affecting peer interaction with 10 (N = 10) participants selected through convenience purposive sampling from the quantitative sample in three high schools selected in the Western Cape Province. The researcher collected credible and reliable data in order to analyze and interpret the findings (see Section 4.5). Data collection procedure included the location of the population, the selection of the sample, sampling, and criterion relied on to select the participants. Data strategies and mechanisms of data collections were employed in this study.

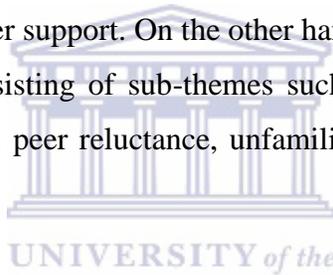


1.10.2 Mechanisms of data collection

This study was conducted in high schools selected in the Western Cape northern district after obtaining an ethical clearance from the research committee of the researcher's academic institute (see Section 4.5.4). A formal announcement was given in the different high schools by their respective principals and/or secretaries. The researcher informed the participants about their need to contribute to the knowledge in educational psychology field about the implication of participation in this study. All participants were selected according to predetermined criteria for this study (see Section 4.5.3.3). Individual and parental consent forms were given to participants in order to seek permission from parents or guardians (*See Appendix 4 and 5*). Qualitative data was collected using face-to-face semi-structured interviews in order to arouse interaction with the participants and to express their life experiences freely and extensively. During the transcription and data analysis stage, the researcher assured the participants that they would be re-called for another round of interviews whenever certain information or themes would require more clarification or exploration.

1.11 Data analysis and interpretation in mixed methods research

Quantitative and qualitative data were analyzed and interpreted separately, and different kinds of analyses were done. The researcher started with quantitative analyses which were first followed by qualitative analyses and then by the integration of mixed methods. Quantitative analyses consisted of three phases: the analysis of initial quantitative data, the testing of statistics hypotheses and the descriptive statistics analyses, and inferential analyses (see Section 4.6.1). Qualitative analyses, as follow-up to quantitative analysis, involved thematic analysis which consisted of familiarization with data, data coding, theme identification, defining and naming themes and sub-themes, and the presentation of the final analysis or findings. In this approach, the researcher made sense of data in terms of participants' definitions of the situation, noting patterns, themes, categories, and regularities. The following themes and sub-themes were revealed to be positive factors: cooperative learning, exchange of ideas, quality of classroom climate, sense of belonging and peer support. On the other hand, peer rejection and bullying were identified as negative factors consisting of sub-themes such as unfriendliness, discrimination, lack of understanding of diversity, peer reluctance, unfamiliarity, aggression, intimidation, and robbery.



Data interpretation in mixed methods consists of making meaning of the results or findings. Whereas, quantitative research compares the results with the initial research questions asked to determine how the question or hypotheses were answered in the study, qualitative research provides similar explanations about the results, but with few differences. In the present study, the qualitative researcher engaged in defining concepts, mapping the range and nature of phenomena, creating typologies, finding associations with the data, and providing explanation or developing strategies. Through interpretation, the researcher linked the results of the study and drew conclusions and implications. The next section describes the psychosocial development of francophone adolescent learners.

1.12 Psychosocial development of francophone adolescent learners

Adolescence is a critical time, which is influenced by many transitions for teens and their communities. During this period, adolescents significantly experience many changes in their developmental needs to become independent (Stang & Story, 2005). It is thus important for the

researcher to understand what is physically, emotionally, cognitively and socially occurring to adolescents during their growth, how these changes affect adolescents and what kind of supportive resources they need to receive from others more skilled or experienced people. These changes are more familiar with the researcher, educators, and psychologists.

1.12.1 Physical development

The physical development of the adolescent commences with the complex series of biological growth that signifies *puberty*. This consists of a dynamic period of development characterized by rapid changes in body size, and composition, all of which are sexually dimorphic (Rogol, Roemmich, & Clark, 2002). According to Nevid (2011), puberty appears around 11 or 12 and the first ejaculation generally appears between the ages of 12 and 14 years old for boys. It starts with several biological changes such as sexual maturation, and the appearance of physical features that distinguish between boys and girls. During this period, adolescents develop secondary sex features. According to Ruffin (2009), puberty consists of hormonal changes such as the growth of pubic hair, menarche manifested with first menstruation for girls, the penis growth for boys, voice change for boys, growth of underarm hair, facial hair growth for boys and increased production of oil, sweat gland activity and beginning of acne for boys and girls. Adolescents' physical growth far distinguishes them from their peers. Their growth depends on individual socioeconomic and environmental conditions (Stauch, 2003). With regard to the increase in height and weight, during this stage, girls generally experience growth shoot early, gain results and become overly sensitive about their weight from the increasing body fat while boys significantly experience muscular development (Ruffin, 2009). Growth spurt generally happens two years earlier for females than males (Steinberg, 2007). Females may be taller than their male complements of the same age (Mukuna, 2014). Adolescents change their body composition; however, boys greater develop their body upper musculature while girls begin their menstruation between 13 and 14 years old. On average, boys eventually surpass girls with rapid physical changes. Consequently, adolescents think about sexuality and body image. In this study, participants estimated to suit the above-mentioned physical change.

1.12.2 Cognitive development

The understanding of adolescents' cognitive development is relevant to determine psychosocial factors affecting peer interaction among francophone adolescent learners in high schools. Adolescents have better thinking which is characterized by advanced reasoning skills (Ruffin, 2009). This cognitive development is characterized by transition of style of reasoning from concrete and operational to formal thoughts (Sturdevant & Spear, 2002; Ruffin, 2009). This formal thinking involves logical, hypothetical thoughts and the ability to judge, think abstractly, use deductive reasoning and solve problems by checking solutions. The growth of cognitive system is specific and unique to each individual. Some evidence considers this period as an increased vulnerability and adjustment, because brain and cognitive systems continue to mature throughout adolescence and into early adulthood (AlBuhairan, Harrison, Kaufman & Aremit, 2012; Gogtay, Giedd, Lusk, Hayashi, Greenstein, Vaituzis, & Rapoport, 2004). This is the reason why the present study required participants who were able to judge with their thoughts and respond to item questions relating to the kind of social support they had received from teachers, parents, and peers. The participants were further able to read and understand items relating to psychological factors and cultural differences, and to distinguish between positive and negative factors that could influence their interaction with peers at schools in the Western Cape.

1.12.3 Emotional and social development

Adolescents strongly emerge in five matters: identity, autonomy, intimacy, comfort with one's sexuality, and achievement (Steinberg, 2007). Establishing identity is the most essential component during this stage. Adolescents set their personal moral and ethical norms and develop greater feelings of self-esteem or self-respect (Stang, & Story, 2005). They question who they are. Parental and peer influences begin to integrate their opinions related to likes and dislikes. Adolescents eventually think to be fitted to people who have clear sense of values and beliefs in the world (Ruffin, 2009). Therefore, it is important to understand the emotional development among adolescents, which development may considerably be affected by their physical development. Physical development can cause eating disorder among girls, delay sexual maturation, and lead to a lower self-esteem among adolescents (Stang & Story, 2005).

With regard to adolescents' autonomy, it often starts with adolescent rebellion and consequently leads adolescents to become less parental emotional supportive (Steinberg, 2007). Adolescents want to become independent and self-governing individuals within peer relationships and they think to have gained the ability to make their own decisions based on their own principles either wrongly or rightly. Adolescents also spend more time with their peers, but they always refer and conform to parental or adults decision regarding values, relationship, and education issues (Ruffin, 2009).

Intimacy is generally associated with sex differences (Steinberg, 2007), however, the two concepts are different. Intimacy refers to a relationship in which individuals of the same sex or hetero sexes are open, honest, caring and trusting (Ruffin, 2009). During this relationship, adolescents learn to start, maintain and achieve their friendship through collaboration, sharing ideas, peer support, to cite but a few. During this period, adolescents are mature enough to reproduce and skilled to think about sexuality identity. Thus the researcher believes that they are educated enough about the sexuality development in terms of a suitable relationship between girls and boys.

Achievement is also one of the five characteristics of adolescents' emotional and social development. Adolescents start to build the relationship between their current skills and future career ambitions (Steinberg, 2007; Ruffin, 2009). In the context of the present study, the researcher believes that participants had ambitions in diverse fields in which they were willing to make a brilliant future after successful academic achievement. The researcher further believes that participants in this study had a high level of self-consciousness to regulate their behaviours regarding psychological factors such as emotions, aggressiveness, empathy and sympathy due specific personal emotional life they had experienced. As a result to their advanced reasoning skills, they were able to logically express their personal experiences and generate realistic arguments to their behaviours related to interaction with classmates at schools. Participants in the present study appeared to be self-governing and independent in that they could build friendship through peer interaction, positively develop and practice their social skills towards both positive and negative peers' behaviours. Positive practices included peer support, cooperative learning, an exchange of ideas, a climate of unity and wholeness in the classroom, a sense of belonging within the school community. The negative practices included peer bullying, discrimination,

unfriendliness, lack of understanding of diversity at schools, robbery and peers' reluctance of interaction.

1.13 Ethical considerations

Research is normally conducted following some research principles. It cannot be conducted by anyone, everywhere, and anyhow. Therefore, the researcher ensured that ethical issues such as the protection of participants' dignity when publishing the information in the research were strictly considered (Fouka & Mantzourou, 2011). Furthermore, the researcher took account of both procedural and practical ethics as required in scientific research (Guillemin & Gillam, 2008: 263). This is to suggest that, the researcher first obtained clearance from relevant ethical committees as participants involved human beings and then considered usual ethical matters such as privacy, confidentiality and anonymity; informed consent, protection from harm; voluntary participation and free consent at field work, particularly during his interaction with the participants. The researcher thus displayed all the skills of the research.

1.13.1 Privacy, confidentiality and anonymity

Privacy and data protection are fundamental rights which need to be protected at all (EC, 2013). Privacy refers to the identities of research participants, which should be protected through confidentiality and anonymity (Babbie, 2005). Therefore, researchers should take into consideration their participants' privacy as far as the information provided is concerned. This information should be disclosed and/or treated with confidentiality.

In the context of the present study, the researcher kept the information anonymous and confidential by using pseudo-names rather than participants' (schools and learners) actual names. The researcher stored the data in a separate folder on his personal computer, and kept the texts in a box under lock and key unknown by any third party. Prior to data collection, the researcher had a brief meeting session with participants, who were informed about their right to withhold any information that they did not wish to disclose, ask questions for clarity. The researcher informed the participants that this study may be published, but their identities remained strictly confidential and will not be included in the publication.

1.13.2 Informed consent forms

Informed consent forms are generally used prior to data collection procedure. However, following the research norms at the University of the Western Cape, the researcher was first granted an ethical clearance from the University of the Western Cape allowing him to conduct research, and authorisation from the Director of Research Services in the Western Cape Education Department (WCED) to access the selected high schools. The researcher then obtained research approval from the principals of the selected schools in the Western Cape. As the participants were adolescent learners aged between 12 and 19 years old, the researcher ought to obtain consent from his their parents or guardians, and from themselves through informed consent forms in order to guarantee the voluntary participation in this study. The researcher ascertained whether volunteers were available and willing to participate in follow-up interviews at a later stage. The researcher assured to the participants that they are free to withdraw from this research study before, during or after completing the questionnaire without any consequences.

1.13.3 Protection from harm

Research ethics require harm free research. Harm can be prevented and reduced through the application of appropriate ethical principles (Orb, Eisenhauser, & Wynaden, 2001) including respect for their human rights. As this study involved adolescent learners with a francophone background and dealt with sensitive and emotional issues, the researcher ought to respect learners' rights when administering the questionnaires and conducting interviews. For example, the researcher avoided disrupting normal school programmes and activities in order not to inflict physical or psychological harm to the participants. The researcher explained to the participants that this study wouldn't disadvantage them in any way but if could feel discomfort, the researcher had planned to refer all participants affected in a way or another during the process of data collection process to a school counsellor or on-side psychologist, or else to a lawyer in case there was the need to.

1.14 Definition of key concepts

In the current study, the researcher defines key concepts including peer interaction, psychosocial factors, francophone learner, and adolescence.

a. Peer interaction

Interaction refers to the social exchange between two individuals (Rubin, Bukowski, & Parker, 2008). It is reserved for dyadic behaviour in which the participants' actions are so interdependent that each actor's behaviour is both a response to, and stimulus for, the other's behaviour. However, peer interaction is perceived as a source of behaviour change in adolescents (Hartup, 2005). Peer interaction is essential for language, cognitive, and social development (Bruce & Hansson, 2011:313). In this study, the researcher believes that francophone adolescent learners were able to cooperate, compete, fight, play, respond to provocation, and engage in a host of other behaviours. They were able to use French and English languages to communicate and interact with peers within schools in the Western Cape.

b. Psychosocial factors

The term "psychosocial" is a blending of the word *psyche* referring to an individual psychological behaviour and the word *social* relates to a social setting or community in which the individual lives and interacts with others (Hayward, 2012). *Psyche* refers to factors related to emotions and feelings that affect an individual's behaviours whereas *social* involves social support and culture that affect an individual in community. Thus, there is an interconnection between social conditions and psychological factors (Yasin, & Dzulkifli, 2010; Ganasegeran, Al-Dubai, Qureshi, Al-Abed, Rizal, & Aljunid, 2012). This connection can be defined as the social environment that influences individual psychological factors and vice versa. In the current study, the researcher considered psychological factors, social support from teachers, parents and peers, and cultural differences as components of psychosocial factors that influence peer interaction amongst francophone adolescent learners in high schools in Western Cape.

c. Francophone learner

The concept *Francophone* was first used by Onesime Reclus in the nineteenth century in order to distinguish countries based on their official languages (Pinhas, 2004). However, during the colonial period, the French imposed their language on their African colonies in order to maintain the influence of France in literacy through the educational system worldwide (Tadjo, 2008). It is worth mentioning that this term was further revived by Leopold Sedar Senghor, Aimé Césaire, and Léon Damas - the three members of the Negritude movement in the 1950s. Since then the

term Francophone took another dimension (Tadjo, 2008) because the Negritude Movement members, who were fighting for freedom, considered French as the language of colonialists and oppressors. However, as a poet, Leopold Sedar Senghor ironically and strongly remained French and advocated for French language in Africa. Senghor was then much seen as the founder of la *Francophonie* in Africa. Senghor considered all countries using the French language worldwide as united by similar goals and as constituting a political, sociocultural and economic entity (Tadjo, 2008). This is generally applicable to France's former colonies and Africans, who chose French as their medium of communication, cultural and second language or as a mother tongue, became Francophone. Therefore, Francophone learners involved in this study were from countries where French was a medium of instruction and communication derived from their colonial heritage. In order to address the objectives of this study, the researcher only considered participants originating from francophone countries such as Burundi, Guinea, Mali, Burkina-Faso, Niger, Ivory Coast, Senegal, Gabon, Cameroun, the Republic of Congo, and the Democratic Republic of Congo (DRC) in the selected high schools in the Western Cape.

d. Adolescence

According to Santrock (2010) adolescence is a period of transition from childhood to adulthood that concerns biological, cognitive, and socio-emotional change. In the context of this study, the researcher believed research involving francophone adolescent learners aged between 12 and 19 could help him meet the set objectives.

1.15 Layout of the study

Chapter 1: General introduction

This chapter provides a general overview of the study. This includes the introduction, background, problem, rationale, and significance to the study. This chapter also includes research questions, the aim and objectives, hypotheses and assumptions of the study, overviews of the pilot study, research methodology, ethical considerations, the definition of key concepts, and the layout of the study.

Chapter 2: Literature review

This chapter outlines the literature review. Firstly, it involves the conceptual framework which provides the explanation of concepts such as psychosocial factors: psychological factors, social support and cultural differences, and peer interaction. It also involves previous studies on parental, teachers and peers social support amongst adolescents at schools and existing studies on positive and negative factors which influence peer interaction amongst adolescents. This chapter focuses on the theoretical framework seen in the lens of Vygotsky's sociocultural theory, inclusive education, and international speech relevant to this study.

Chapter 3: Pilot study

This chapter defines a pilot study, presents its definition and importance, and its objectives. It describes the procedure for participants' recruitment and the expectations of the researcher. This chapter also discusses the developing and testing instruments and the results of the pilot study.

Chapter 4: Research methodology

This chapter describes the research methodology - a mixed methods design with an explanatory sequential research design. The procedures and mechanisms of data collection such as population, and sampling and sample size are presented in this chapter, which also describes the research site, provides the background of the participants and criteria for their selection for both quantitative and qualitative methods. This chapter also discusses the techniques of data analysis and interpretation used in mixed methods and the different ethical considerations

Chapter 5: Quantitative results

This chapter presents and interprets the quantitative results in accordance with an explanatory sequential design. It presents the findings of demographic features, testing hypotheses, and findings of interconnection between psychosocial factors and peer interaction moderating demographic variable including age, gender, and grade level. It further presented Structural Equation Modeling (SEM) fit for psychosocial factors model (psychological factors model, social support model, and cultural differences model) among francophone adolescent learners in the high schools selected in the Western Cape.

Chapter 6: Qualitative results

This chapter presents and interprets qualitative results; that is, results from participants' biographical information and results produced from face-to-face semi-structured interviews. This chapter uses a thematic analysis to present and analyse the gathered data. It also takes account of trustworthiness of the results, which includes transparency, credibility, and transferability.

Chapter 7: Conclusion and recommendations

This chapter summarizes the results of the study and presents conclusions drawn from the study. Limitations, reflections, and recommendations for additional research are also discussed.

1.16 Conclusion of the chapter

The researcher in this study has presented the historical background challenges African immigrant adolescent learners experience in South African schools including new curriculum, cultural and linguistics challenges, new school environments. This chapter has further presented the problematic scenario of the study, which is related to the local, national and international evidence. The researcher has defined the methodological approach, which is a mixed methods approach, the research design and data collection methods. Data analysis and interpretations have been presented as well. Furthermore, this study has presented different psychosocial development of adolescent learners in high schools. The keywords, ethical considerations and overview of the seven chapters were discussed in this chapter.

CHAPTER 2

LITERATURE REVIEW

2 Introduction

This chapter presents the relevant literature that is expected to create a foundation to the present study on the basis of existing related knowledge on the research concepts of psychosocial factors contributing to peer interaction in schools. The chapter first presents the conceptual framework of the study, then presents an ongoing debate on the previous researches, and finally provides theories that are expected to inform the study.

2.1 Conceptual framework of the study

The conceptual framework in this study presents the two key concepts that are the concept of psychosocial factors, which include the psychological factors, social support, and cultural differences; and the concept of peer interaction in the schools with a focus on its conceptualisation, characteristics, and importance in schools.

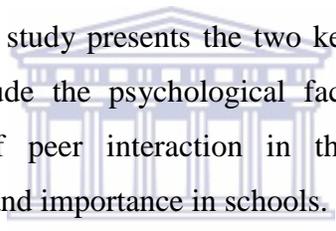
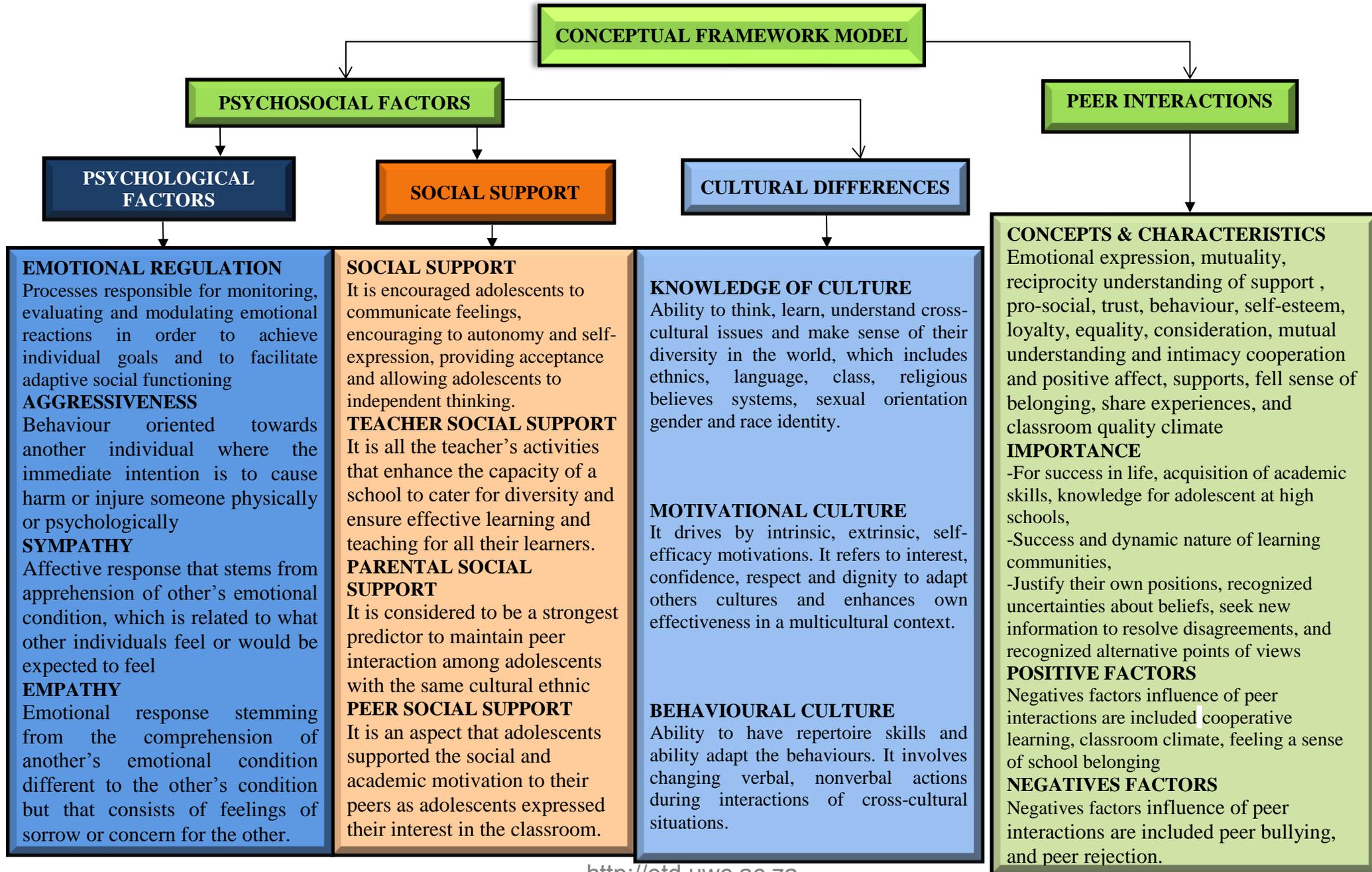

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Figure 2.1: Conceptual framework of the study

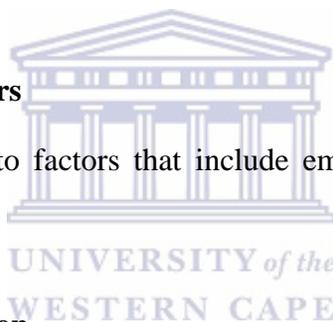


2.1.1 Psychosocial factors

With regards to the definition of psychosocial factors, it is worth to mention that literature from the field of well-being and health sciences present different semantic contours (Espelage & Swearer, 2003). Although much is known about what psychosocial factors are associated with, less is known about the influence of the psychosocial factors on peer interaction among adolescents in schools. Scholars, researchers, and psychologists generally associate psychosocial factors with many features amongst adolescents in schools including happiness, anxiety, depression, anger, empathy, experience of stress, poverty, self-esteem, introversion, negative affect, self-efficacy (Cserép, Székely, & Merkely, 2013; Rockliff, Lightman, Rhidian, Buchanan, Gordon, & Vedhara, 2014; Calvetti, Giovelli, Gauer, & Moraes, 2014). Thus, psychosocial factors in the current study address the psychological factors, social supports from teachers, parents, and peers, and cultural differences.

2.1.1.1 Psychological factors

Psychological factors are related to factors that include emotional regulation, aggressiveness, empathy, and sympathy.



a. Emotional regulation

Emotional regulation is referred to as the processes responsible for monitoring, evaluating and modulating emotional reactions in order to achieve individual goals and to facilitate adaptive social functioning (Thompson, 1994). Emotional regulation can be deliberate or habitual, conscious or unconscious; it can deal with changing in the magnitude, duration, or quality of one or many variables of an emotional response (McRae, Ochsner, Mauss, Gabrieli, & Gross, 2008). Gross, Sheppes and Urry (2011) describe three different ways to how individuals can regulate their emotions for goal achievement or depending on the context. First, the way emotion regulatory goal is activated in the individual who have an emotion episode or someone else. This is referred to as *intrinsic emotion regulation*. However, it refers to *extrinsic emotion regulation* when, for example, a parent calm down an anger child (Gross, Richards & John, 2006). Second, it can be a result of motivation to engage in emotion regulation. Tamir (2009) describes *hedonic emotion regulation* which involves feeling less negative or more positive in the near term, and *instrumental emotion regulation* that deals with how to achieve one's long-term goals. Third, it

relates to the emotion regulatory goal that is explicit or implicit (Gross, Sheppes, & Urry, 2011; Mauss, Bunge, & Gross, 2007; Bargh & Williams, 2007). In this context, *explicit emotion regulation* relates to whether the goal is deliberated and consciously perceived. For example, when an individual decides to try to look happier than he really feels it at a party. On the other hand, the goal is *implicit emotion regulation*, when it activated outside of the individual's awareness.

b. Aggressiveness

Aggression is a behaviour oriented towards another individual where the immediate intention is to cause harm (Robertson, Daffern, & Bucks, 2012). According to Berkowitz (1993:3), it is a form of behaviour that intends to injure someone physically or psychologically. As a result of intention, Anderson and Bushman (2002) argue that aggression can be applicable to impulsive, reactive behaviour and driven by anger (*hostile*) or to premeditate, proactive and driven by an ultimate goal (*tangible*), and other than harm (*instrumental*). Scholars had differently categorized aggression amongst adolescents. Björkqvist, Österman, and Kaukiainen (1992) mention three forms of aggressive behaviours. These are composed of physical, direct, verbal, and indirect aggression. Physical aggression results from the individual frustration, which does not have enough mechanisms to cope with stress, and engage in reasonable decisions or solving problems (Stickle, Kirkpatrick & Brush, 2009; Kruti, & Melonashi, 2015). It is a hostile kind of aggression that aims to damage the individual body. According to Sameer and Jamia (2007), physical aggression is characterized by aggressive behaviours that include hitting, slapping, pushing, pulling raping, and feeling anger, hutting, fighting and rolling. With regard to the physical aggression, it is obviously evidenced that boys are more aggressive than girls in the Western developed countries (Björkqvist, Österman, Oommen & Lagerspetz, 2001; Sharma & Marimuthu, 2014). As females are physically weak than males, they develop other means, which is verbal aggression to reach successful outcomes in the conflict- resolution- process amongst peers (Björkqvist, 1994). Verbal aggression is referred to the aggressive acts including insulting with obscene language, swearing, menacing to cause emotional distress to others (Sameer & Jamia, 2007). Furthermore, verbal aggression consists of behaviours such as intimidating, teasing and name-calling others (Onukwufor, 2013) and pleasing. Onukwufor (2013) investigated the

prevalence of verbal aggression among adolescents and found out that males were more verbally aggressive than females.

c. Empathy

It is crucial to obtain the common idea in the definition of term “empathy” and some scholars have tried to include the idea of perceive, share another’s experiences of the well-being (Håkansson, 2003; Håkansson & Montgomery, 2003) while others have recognized it as emotion awareness phenomenon (Nilsson, 2003; Ioannidou & Konstantikaki, 2008; Rieffe & Camodeca, 2016). The researcher believes that the understanding of emotion and similarity experience form an essential whole to explore empathy experience amongst adolescents at schools. Empathy is referred to as an affective response that stems from apprehension of other’s emotional condition, which is related to what other individuals feel or would be expected to feel (Eisenberg & Eggum, 2009:71). De Waal (2009) emphasizes that this human ability plays an essential role in quotidian social life because it helps on the promotion of cooperation, and strengthens the interpersonal relation in group cohesion. As regards to the understanding of individual emotions, psychologists and researchers have differently perceived empathy in order to denote what individual deal in the distress situation.

It is essential to consider age and gender differences in order to understand the empathetic feelings of adolescents. However, Michalska, Kinzler, and Decety (2013) compared age and gender differences related to empathy responses across childhood and adolescence. The sample size of this experimental study involved 65 participants which were divided in two groups. The first group consisted of thirty female’s participants and thirty-five males. Their age ranged from 4 to 17 years old. Michalska, *et al.* (2013) used the Bryant Empathy scale as instrument for gathering data collection. The results revealed that females scored higher empathetic than males and a significant difference was increased with age. This finding suggests that gender differences in empathy may reflect females greater of empathic arousal and the higher is empathy, the lower is age. However, this study approached the understanding of other’s feelings, desires, beliefs and experiences during peer interaction amongst francophone adolescent learners in the high schools in the Western Cape.

d. Sympathy

Sympathy is referred to as an emotional response stemming from the comprehension of another's emotional condition that is different to the other's condition but that consists of feelings of sorrow or concern for the other (Eisenberg & Eggum, 2009:72). Sympathy is a feeling concern for the other and it regulates much human social interaction. As a result to the understanding of empathy, Caprara, Barbaranelli, Pastorelli, and Regalia (2001) argue that empathy increases in feeling distress for another, while sympathy is a feeling concern for the other and it regulates much human social interaction that might prevent the individual from engaging in aggressive behaviours. They further argue that sympathy and empathy involve the prosocial behaviours including helping, cooperation, and lead away from antisocial behaviours such as aggression.

However, researchers, psychologists across social sciences have conceptualized and used the terms empathy and sympathy to mean diverse aspects, to different people, at several times. Sometimes, the meanings of these constructs are vast and complex. Empathy and sympathy are not identical, although sympathy is the common consequence of empathy (Björkqvist, Österman, & Kaukiainen, 2000). Ellis (1982) explains that empathy is a perception or understanding of how and what another individual is feeling and the experiencing of another person's feelings or emotions. Dadds, Hunter, Hawes, Frost, Vassallo, Bunn, and El Masry (2008) difference the affective empathy and cognitive empathy in children using parent ratings. The affective component discussed emotional sharing and covered a response that is in connection with what individual experiencing on a visceral level. The cognitive component referred to an understanding of other's emotional state. This deals with the ability to identify the emotion being experienced by another individual, and to comprehend why the individual feels that way (Dadds, *et al*, 2008).

2.1.1.2 Social support

Another feature of psychosocial factors is social support. Theorists have demonstrated that the social context in which adolescents live is strongly influenced by social support from potential providers that are teachers, parents, and peers (Bronfenbrenner, 1979, 1986). Other scholars have recognised that social support concerns to build on positive individual characteristics and positive qualities such as interpersonal skill, capacity of love, courage and perseverance (Seligman & Csikszentmihalyi, 2014). According to Chaplin and John (2010), social support to

adolescents is generally referred to the encouraging adolescents to communicate feelings, encouraging to autonomy and self-expression, providing acceptance and allowing adolescents to independent thinking. However, Beaver (2008) acknowledges that social support is derived from multiple potential sources during adolescence development including teachers, parents, and peers. Since adolescence is a transition phase from childhood to adulthood, these sources can influence adolescents' behaviours in order to satisfy their social and academic achievements at schools (Valdner, 2014). As a result of multiple types, Malecki and Demaray (2006) distinguish emotional social supports, informational social supports, and instrumental social supports. Emotional social support consists of empathy caring, affection, and trust expression of positive affect, consoling, encouragement of expressions of feelings from others. Information social support is referred to provide advice, guidance access to information in individual problems with parents, teachers or friends relationships. Resources include providing skills, homeworks, tasks, time, money are instrumental social support. Wentzel, Battle, Russell and Looney (2010) consider parents, teachers and peers as helpers, advisors, guiders, supervisors, supporters and controllers of adolescents in a school context. These influence their social goals including social acceptance, and rejection (Poulin, Nadeau & Scaramella, 2012). For example, the level of interest in schools is greater when adolescents are accepted in organizing a specific activity in group, than when they are rejected from their peers, the level of interest in schools shall be decreased also.

2.1.1.3 Cultural differences

It is relevant to first understand the concept of “cultural intelligence” (CQ) for a better understanding of the concept of cultural differences. Evidence suggests that cultural intelligence could influence cultural interactions and create opportunities for Afrikaans-speaking South African adolescents to develop their skills and competences in multicultural environments (Hurtado, Dey, Gurin, & Gurin, 2003). Thus, previous studies on cultural intelligence in South Africa have been conducted in managerial context (Smit, 2006; Saurer, 2008; Van den Bergh, 2008, Du Plessis, 2011). As a result, researches in cross-cultural interaction, cross-cultural psychology, and cross-cultural communication have been conducted on the theoretical and empirical studies to understand cultural intelligence and its constructs (Earley, 2002; Thomas, 2006; Brislin, Worthley, & MacNab, 2006). Some studies considered four constructs to explicate

CQ that included CQ meta-cognitive or strategy, CQ cognitive or knowledge, CQ motivation, and CQ behaviour (Sternberg, & Detterman, 1986; Earley & Ang, 2003; Tan, 2004; Van Dyne & Ang, 2005; Ng & Early, 2006; Ang, Van Dyne, & Koh, 2006; Ang, Van Dyne, Koh, Ng, Templer, Tay, & Chandrasekar, 2007). Others differently acknowledged only three components, which include knowledge, mindfulness, and behaviour (Thomas & Inkson, 2005; Du Plessis, van den Bergh & O'Neil, 2007). Furthermore, Thomas and Inkson, (2003) labeled a holistic approach of cross-cultural interaction suggesting three strategies such as appropriate skills, competencies, knowledge, and behaviours. According to Earley and Ang (2003), the model of cultural intelligence (CQ) is the capacity required to an individual for a successful adaptation to a new cultural environment or unfamiliar milieu. This capacity is a part of the system of interactions ability in cross-cultural context (Sternberg, 1997; Thomas, 2006). It is further addressed the problem of why individuals fail to adjust to and understand new cultural backgrounds (Earley & Ang, 2003; Du Plessis, van den Bergh & O'Neil, 2007). The earlier model of cultural intelligence (CQ) differs to the model of cultural differences. The Earley and Ang's (2003) model is relevant to this study because it allows the researcher to introduce three different features of cultural differences. Furthermore, the conceptualization of cultural differences is considered as diversity in culture or cultural diversity, which different cultures possess in respect of the each other's differences (Ahmadi, Shahmohamadi, & Araghi, 2011). For Parvis (2003), cultural differences is considered as diversity which includes culture, ethnics, language, class, religious believes systems, sexual orientation, gender and race identity. Cultural differences offers to this study the opportunity to show the respect and dignity for others and enhance our own effectiveness in African multicultural contexts. Furthermore, Nkomo and Cox (1999: 89) believe that it is a mixture of people with different group identities within the same social system. For instance, the model of cultural differences responded providing the ability of francophone adolescent learners to interact with their peers across different cultures. It believed that cultural differences can be explained on three constructs including knowledge of culture, motivational culture, and behavioural culture.

2.1.1.3.1 Knowledge of culture

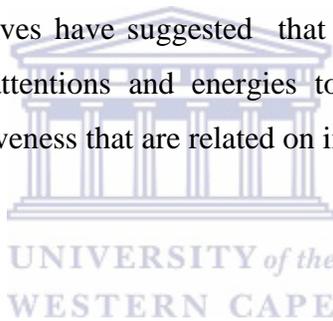
The knowledge of culture refers to cognitive intelligence of Ackerman's (1996) conception, considering intelligence as knowledge concept that makes analogous arguments for the

importance of knowledge as part of intellect. It reflects the general individual knowledge and knowledge structures about culture (Ang & Van Dyne, 2008). These structures include the knowledge of norms, practices and conventions in diverse cultural environment. This is to suggest that it helps to comprehend what culture is, what culture depends on, and how culture influences individual behaviours. In this regard, individual has the capability to find success during his/her personal relations or interactions with peers in an increasingly interdependent world (Ang, & Van Dyne, 2008; Van Dyne, Ang, Rockstuhl, Tan, & Koh, 2012). Individual's process use knowledge to acquire and understand the culture that has been acquired from educational to personal experiences. The cultural knowledge consists of knowledge of oneself as rooted in the cultural setting and knowledge of structures about cultures (Ang, & Van Dyne, 2008; Van Dyne, *et al*, 2012). With regard to the cultural differences in the wide world, it is important to (make a difference between) consider the knowledge of cultural universals and knowledge of cultural diversity (Ang, & Van Dyne, 2008). Studies conducted on cultural intelligence have revealed that individuals with high knowledge of culture have better understanding of similarities and diversities of cultures (Brislin, Worthley, & MacNab, 2006). Cultural universals are associated to the fundamental system that meets the physiological needs of the individual; due to all human beings in society present the identical basic needs. For example, the need of technological innovations, social interaction with others, believes systems and behaviours that regarded humans to the universe, communication with partners, methods of cooking food, etc. In this study, the researcher used the knowledge of culture in order to facilitate the peer interactions in the school environment, which is required the francophone adolescent learners to develop the language and communication systems including verbal and nonverbal at the schools inclusive schools.

2.1.1.3.2 Motivational culture

The motivational culture refers to motivational intelligence of Ceci's (1996) vision, addressing the motivated aspect of conscious cognition, which is critical to solve the real word problem. It is recognized that most cognitive activities are motivated and focused on the directive of energy toward the learning in intercultural situations as a locus of intelligence (Ang & Van Dyne, 2008; Van Dyne, *et al*, 2012). Furthermore, it is an important variable of the motivational intelligence, as it is the basis of drive and activates effort and energy, which is directed to functioning in new

cultural environments. These motivations can be intrinsic, extrinsic, and self-efficacy (Livermore, Van Dyne, & Ang, 2012). Intrinsic motivation is referred to the degree to which individual drives satisfaction from cultural diversity situations. Extrinsic motivation involves the more tangible benefits the individual gain from culturally driven experiences. Finally, self-efficacy motivation considers that individual confidence will be effective in an intercultural encounter. For instance, a francophone adolescent learner who has a good relationship with a South African learner and likes to interact with those from other culture would not hesitate to start a conversation with fellow learner from South Africa. While another immigrant who has just started learning English language will be less likely to interact in a cross-cultural situation. Individual use their mental capacity to direct and sustain their energy on cultural situations or tasks. To Ang and Van Dyne (2008), the motivational culture reflects individual capability to manage energy to learn about and function in cultural diversity circumstances. Thus, many scholars on motivational perspectives have suggested that individuals with high motivational culture intelligence direct their attentions and energies to cross-cultural circumstances and confidence in cross-cultural effectiveness that are related on intrinsic and extrinsic interests (Deci & Ryan, 1985, Bandura, 2002).



2.1.1.3.3 Behavioural culture

It is essential to consider behavioural culture as a major component from the idea of cultural differences. This is because it ability generates an appropriate behaviour in a new cultural circumstances (Thomas, 2006). As a result, the adaptation of cultural diversity depends on individuals who are culturally intelligent to develop a behavioural capacity that allows them to become effective across cultural situations (Thomas, 2006). However, behavioural culture results from behavioural intelligence of Sternberg and Detterman's (1986) framework, focusing on the capacity to exhibit actions. It is emphasized on the individual capabilities at the action level to display appropriate verbal or nonverbal actions during the interaction with others from different cultural backgrounds (Ang, & Van Dyne, 2008; Van Dyne, Ang, Rockstuhl, Tan, & Koh, 2012). The individual acquired used mental functioning displayed to the actual behaviours. According to Ang and Van Dyne (2008), behavioural culture reflects individual capability to exhibit specific actions both verbal and nonverbal in culturally different circumstances. Behavioural cultural concerns to the extent to which an individual acts in both verbal and nonverbal in cross-

cultural circumstances. It is an essential element in the sense that verbal and nonverbal behaviours or actions are the most salient components of social interactions regarding to cultural values in specific circumstances. For example, when an individual initiates a conversation and interacts with their peers, they do not have access to their abstract thoughts, feelings, or motivations. Thus, they have only access to behaviours that are relied on what they observe and hear from the individual's vocal and facial expressions. Scholars in cultural intelligence argue that behavioural of cultures is directed based on three ways (Cranmer, 1995; Lustig & Jolene Koester, 1999; Ang & Van Dyne, 2008). It depends in the specific range of behaviours that are delivered. It varies in the display rules that direct when and under what situations the specific nonverbal behaviours are required, preferred, performed, allowed or prohibited. Finally, it depends in the interpretations that are attributed to the specific nonverbal expressions. Therefore, many scholars have suggested that individuals with high behavioural culture are flexible and can adjust their behaviours to the particulars interactions with others in the cultural situations (Ang & Van Dyne, 2008).

The major element is to become conscious of how life choices influence those around us. In this study, the researcher addressed the adaptability and ability of francophone adolescent learners to perform new behaviours or actions related to new cultural circumstances. The behaviours are dependent on the variables either weak or strong that influence on weakly or strongly on cultural differences. This study further helped understanding into how individuals are differently effective in the cross-cultural environments. However, in South African schools, these learners are required to learn from others who are from different cultural backgrounds. Furthermore, cultural diversity offers a set of capabilities that should help teachers, parents, and learners to show the confidence, dignity, interest and respect for others when increasing their effectiveness and competitive advantage in multicultural world. However, this study is an original discovering of cultural differences to fill the gaps in literature reviews of psychosocial factors influence adolescent at the South African schools settings.

2.1.2 Peer interactions

2.1.2.1 Conceptualisation of peer interactions in the schools

Researchers, scholars and psychologists have reported considerable debates in literature around the meaning of the concept "peer interaction". Easthope and McNamara (2013) argue that peer

interaction refers to all types of interactions that happen between people. Moore (1989) classifies three types of interaction schemes including learner-instructor, learner-content interaction and learner-learner. However, this study involves in the last component which is taken of the interaction learner-learner. It takes place between one learner and other learners, alone or in group settings, with or without the real-time presence of an instructor. These interactions can be verbal or nonverbal, friendly or threatening, and brief or long-lived. Peer interaction can happen in group or individually. It is essential to consider peer interaction as a part of human life. According to Rubin, Bukowski, and Parker (2008), interaction refers to the social exchange between two individuals. For Johnson (2011), peer interactions must be reciprocal. This respects the rules that are concerning when an individual interacts with their peers. For example, the conversation should not be dominated by one person; therefore, adolescents who give ideas and comments shall expect comments in return. It is reserved for dyadic behaviour in which the participants' actions are interdependent such that each actor's behaviour is both a response to, and stimulus for, the other's behaviour. Considering peers as nonfamily children who are similar to one another in age and competence level (Edwards, de Guzman, Brown, & Kumru, 2006). However, peer interaction is examined as a source of behaviour change in adolescents (Hartup, 2005). Furthermore, these peer interactions are essential for language, cognitive, and social development (Bruce & Hansson, 2011:313). According to Moore and Kearsley (1996 in LaPointe & Gunawardena, 2004:84), peer interactions are as communication among peers. For example, at school the communication between one learner and other learners, alone or in group, with or without the presence of teachers. In this study, the researcher is not dealt with peer interactions among learners and teachers when they are engaged in school work. The particular emphasis on this study has to be centralised on peer interaction as an agent of socialisation. Consequently, this study approaches the educational significance of peer interactions among adolescents and examines the relationship of peer interaction to the questions of development of adolescent, then what factors seem to be most affecting the interactions for their learning, cognitive, and social development of adolescent in high schools. With regarded to the goals of the study, peer interaction can be understood as relationships and roles developed adolescents during their academic or social activities at schools.

2.1.2.2 Characteristics of peer interactions in high schools context

In this study, the researcher attempts to review some characteristics of peer interaction. These included social interaction, emotional expression, mutuality, and reciprocity. It is important for this study to specify the difference between positive and negative friendships quality perspectives before moving to the characteristics of peer interaction. Thus, these approaches allow describing the understanding of support, pro-social behaviour, trust, self-esteem, loyalty, equality, consideration, mutual understanding and intimacy (Berndt, 2002, Klarin, 2006). As a result, the failure to satisfy these needs may affect peer interactions and its outcome can cause anxiety and social isolation (Klarin, Šimić Šašić, & Proroković, 2012). Researchers, scholars and psychologists reviewed social development and examined direct effects of friendship quality among adolescents (Demir & Urberg, 2004; Berndt, 2002; Cillessen, Jiang, West & Laszkowski, 2005). Cillessen, *et al.* (2005) signified conflict, closeness, companionship, helping and security as friendship quality. Their findings strongly revealed that positive friendship features affect primarily adolescent's success in the social world of peers, while negative friendships features are derived from the negative interactions between friends (Cillessen, *et al.*, 2005). During friendship among adolescents, the interactions with peers are frequently characterized by dominating, being aggressive or having superiority over one another. Shin (2010) showed that reciprocated friends could be a key component in the close friendship between two individuals and it could exhibit strong preference and positive affection mutually each other. For example, during peer interaction, adolescents display significantly greater amount of social contact such as talking, cooperation and positive affect, supports, fell sense of belonging, share experiences, and classroom quality climate. In addition, they demonstrate more concern with resolving interpersonal conflicts and they are less likely to instigate conflict when engaged in cognitive related tasks together than do with non-friends (Wentzel, Barry & Caldwell, 2004). Furthermore, the quality of peer interaction among adolescents has been shown to be connected with social skills, loneliness, rejection, victimization and social anxiety during adolescence.

From the time that adolescent learners begin interacting with peers, they exhibit a different kind of behaviours. At the school, adolescent learners form a core society with peers and aides in whom they experience interaction determining for goals and structures.

As Hughes, Copeland, Wehmeyer, Agran, Cai and Hwang (2002) argue reciprocity is an important aspect of peer interaction. Peer interactions are characterised by frequent initiations

and responses with conversational individuals, reciprocity of exchanges. During peer interaction, individuals are expressed by the level of mutual responsiveness. The attention is paid on social individuals or social focal points, and more frequent peer versus adult interactions with regards to the reciprocity feature when adolescents are interacting with their peers in schools. Reciprocity is created by the balance many sorts of behaviours including verbal and non-verbal, directed and non-directed, communicative and non-communicative of individuals in interactional contexts (Linam, 1998). For example the conversation should not be dominated by one person; therefore, adolescents who give ideas and comments shall expect comments in return. These can be explained while adolescent learners communicate, cooperate, compete, fight, play, respond to provocation, experience mutual relationships with others and engage in a host of other behaviours. These behaviours depend accordingly to adolescent learners, to their interactions, and to their contexts. These evidences are not used to evaluate positive or negative friendships quality, but it showed us the origin of interactions with their peers may develop by understanding of friendships quality among adolescents in appropriate contexts.

It can be concluded that peer interaction is a principle of social behaviour. This concerns different aspects including peer interaction as an important goal, positive emotional expression form. In the social context of learning, Hove and Mercer (2007) have emphasized that social interaction and collaborative activity among learners in school can provide valuable complementarity opportunities for learning development, while it can be irrelevant and challenges of the traditional view of talk and social interaction among learners are irrelevant, when it is disruptive to learning. In effective peer interaction in school, Hove and Mercer (2007) suggested that learners should have the opportunity to be engaged in productive social interaction. This can be formed in group; pair based activity, in that way it will best achieve productive interaction.

2.1.2.3 Importance of peer interaction in schools

The ability to interact competently and positively with others is a key element for success in life, acquisition of academic skills and knowledge for adolescents at high schools (Goleman, 1995; Battistich & Watson, 2003). Many studies have shown the value of the peer interaction in terms of learning resource (Su, Bonk, Magjuka, Liu, & Lee, 2005, Kim, 2009). According to Pascarella and Terenzini, (2005) the interactions with peers among adolescents in schools are a key to

success and dynamic nature of learning communities. To Yuhan (2013), interaction covers many positive functions for adolescents with impacting the communicative skills, social adaptation, long-term relationships, and the development of cognitive emotion and personality ways. During peer interactions, adolescents learn to form friendships and to deal with conflicts with their peers, and practice interaction skills in their social, cognitive, and emotional development (Steenbeek, 2006). In this context, adolescent practice peer relationships, refine their social skills, they access to the support systems, they shared different activities, learn peer norms and values during their interactions with peers (Carter & Hughes, 2005).

Over the past decades, the notion of peer interaction was largely reviewed as a form of collaborative learning or cooperative learning (Snaw, 1989; Cloutier & Goldschmid, 1978; Rardin & Moan, 1971). According to Battistich and Watson (2003), interaction provides an ideal vehicle for teachers to structure the environment for successful peer interactions. Peer interactions are also successful than teacher-child interactions since many children are exceptionally placed to better understand their problem needs with their peers than with their teachers (Mathes, Torgeson, Clancy-Menchetti, Santi, Robinson & Grek, 2003). Xun and Land (2004) argue that peer interaction has an advantage in several ways. As a result, peer interaction process is a provider of explanations. Peers receive help from students in order to engage in deeper cognitive processing skills including clarifying, thinking, recognizing information, correcting misunderstanding and developing a new understanding. It is considered as co-creator of ideas. This idea can be improved during learning and it can be internalized to solve problems independently. Students may experience cognitive conflicts. During peer interaction, they attempt to justify their own positions, to recognize uncertainties about beliefs, seek new information to resolve disagreements, and recognized alternative points of views.

2.1.3 Positive factors influencing peer interactions at schools

Reaserchers and psychologists have studied classroom interaction among learners from cooperative learning tradition. Higher quality of peer interactions appeared important because it discourages aggression, emotional distress and antisocial behaviours (Hair, Jager, & Garrett, 2002). Social peer interaction at school takes several forms such as close friendships, clique, their perceptions of large peer norms (Ciani, Middleton, Summers, & Sheldon, 2010). This study considers cooperative learning, classroom climate, feeling a sense of school belonging and peer

support as important components that could explain the influence of peer interactions among francophone adolescent learners in the selected high schools in the Western Cape.

2.1.3.1 Cooperative learning in classroom

Theorists acknowledged that cooperative learning is generally based on social interdependence theory (Deutsch, 1949; Johnson & Johnson, 2006; Johnson & Johnson, 2014). The essence of this interdependence is focused on the way that it is organized to determine how individual interact with others and how the interaction pattern determines the outcome of the circumstances such as positive or negative (Johnson & Johnson, 2003; 2006; Johnson, & Johnson, 2014). According to McWhaw, Schnackenberg, Sclater and Abrami (2003), cooperative learning is referred to the structured approach by teacher to learning in group in order to achieve a specific goal. Cooperative learning is an important teaching strategy for social skills and social learning. Pienaar (2013:191) reported that effective cooperative learning required explicit teaching and monitoring of critical group work skills. Evidence reveals the use of cooperative learning and collaborative learning to reduce anti-social behavior at school in Nigeria (Eskay, Onu, Obiyo & Obidoa, 2012). Eskay and colleagues's (2012) results indicate that teachers were aware to use these strategies but they faced with its implementation at schools. Furthermore, they recommended putting it into effective use. The cooperative learning is important for developing the understanding of social values of justice, caring and fairness and their social skills (Battistich, & Watson, 2003).

At the first time at schools setting, adolescent learners face new and complex challenges. They need to interact with their unfamiliar peers at different levels at schools. These include social, emotional, cognitive and interaction styles. As a result adolescent learners must use successful strategies to interact with their peers as this determines their success of academic learning at schools.

2.1.3.2 Classroom climate

Over 40 years, scholars in educational psychology have been interested in the relationship between classroom climate, academic achievement, motivation, self-efficacy, and individual learning (Walberg, & Anderson, 1968; Mazer, Murphy, & Simonds, 2007; Reyes, Brackett, Rivers, White, & Salovey, 2012; Peters, 2013). Since classroom climate is considered as a

learning environment that includes all agents, it can be considered as a class atmosphere or ambiance that determines child's behaviour and learning style at school (Adelman, & Taylor, 2005). The understanding of classroom climate's features has been complex; it ranges from quality interactions to physical well-being levels of the individuals. This is determined by numerous factors. According to the group dynamic approach, classroom climate is the relationship between adolescents' learning experience and teacher efficacy within classroom that influences their feelings of happiness and love (Wu, Wu & Tasi, 2014). However, Ciani, *et al.* (2010), referred classroom climate to attitudes towards learning, norms of social interactions, acceptance of ideas and mistakes, learning structures set by teachers. Classroom climate depends on social system organization, social attitudes, staff and students morale, power, control, guidance, support and evaluation structures, competition, the fit between learners and classroom variables, and safety at schools (Adelman & Taylor, 2005). Its classification is interchangeable according to authors. For example, Ciani, *et al.* (2010) grouped classroom climate in three categories including relationships, personal development and system maintenance and change. Buyse, Verschueren, Doumen, Van Damme and Maes (2008) described and elaborated classroom climate in three dimensions; including internal behaviour, external behaviour and teaching style. Brand, Felner, Shim, Seitsinger, and Dumas (2003) suggested that classroom climate is a system based on students' feeling of safety and experience of school as a welcoming and supportive place, and opportunity to cooperate with peers.

As a result of social psychological context, this study conceptualizes classroom climate as designed through the positive peer interactions among francophone adolescent learners within schools or classrooms. Furthermore, it is an atmosphere of adolescent learners' commitment and achievement orientation, positive and negative peer interactions, support for cultural pluralism and safety problems. This study draws a design of classroom climate as the preventive issue of school bullying, aggression and peer rejection with adolescent learners at schools.

Classroom climate is a relevant element to this study because the relationship within all aspects in educational settings makes the value of school as an organizational structure to examine teaching and learning. This concept constitutes a various number of variables, and it suggests both function relationship of emotional interaction between learners with their peers and teachers.

2.1.3.3 Feeling a sense of school belonging among adolescents

The term sense of school belonging, derived from Maslow's (1999) theory, is not new in psychological literature reviews. The sense of school belonging is a critical feature of peer interactions. According to Sánchez, Colón, and Esparza (2005), a sense of belonging is a social grounded theory derived from interpersonal peer interactions with other members of the school community. Belonging in school setting referred to adolescents' belief that others within their school community cared about their learning, have interest in them as individual and have higher academic expectations (Wingspeard, 2004). The desire to belong to a group of school community is a basic human need that results from an intrinsic motivation to interact with others related to common goals.

Psychological reviewers tell us that the need of belonging in the community is an important factor to understand adolescents' behaviours and their performance at school (Osterman, 2000). This need involves the feeling of connection with others to experience belongingness or the sense of the community. When this need is unsatisfied in school setting, this could reduce motivation and therefore result in poor performance (Booker, 2004). Studies have suggested that the sense of school belonging among adolescents influences the psychological functioning of adolescents including their life satisfaction, general wellbeing as well as the cognitive and physical health (Jetten, Haslam, Haslam, & Branscombe, 2009; Allen & Bowles, 2012). This sense of belonging is protected against psychopathological diseases (Choenarom, Williams, & Hagerty, 2005). Belongingness and social support contribute to predict perceived happiness (Sharma & Malhotra, 2010). As school environment is a basic milieu of connection and feelings of membership, Faircloth and Hamm (2005) believe that school belonging could contribute to the quality of peer interactions among adolescent learners from ethnic and language minority. As a result of the rationale of sense of school belonging. However, Connel and Welborn (1991) reported that the level of school engagement of adolescents increased when they felt a sense of belonging in school. Peer interaction in the sense of school belonging brings the provisions to adolescents who are offered by the interpersonal experiences. It also brings an emotional support and assistance that rely on others. Booker (2007) maintains that sense of school belonging is relevant as it helps adolescents to establish their stability and their respective reference groups at schools.

2.1.3.4 Peer support

Ashman and Gillies (2003) acknowledge that peer support has an essential active role to play in the induction of new members into the community especially inclusive schools settings. According to Mead, Hilton and Curtis (2001:135), peer support is a system of giving and receiving help based on the key principals of respect, shared responsibility, and mutual agreement of what is helpful. Topping (2005: 631) highlights that peer learning support is the acquisition of knowledge and skill through active help and support among equals or matched companions. Through this process, peers offer support, companionships, empathy and encouragement towards others. Researchers have indicated that using peer learning support as strategy in the field of education has a great deal interest due to its excellent resource to promote the mastering of interpersonal competencies in the society (Duran, 2010). In this approach, Mead, and MacNeil (2006) referred it to people who have similar experiences that can better perform and consequently offer more authentic empathy and validation of assistance. This study considers peer support as an effect of empathy and encouragement towards others. Peers are referred to particular individuals who have direct or indirect experiences. Evidence has indicated that peer support depends on individual age and social context, but some individuals are skilled at developing supportive interactions that allowed to actively interacting with others (Colarossi, & Eccles, 2000). At school, adolescents receive support from their peer group. Extensive literature has shown the importance of peer support among adolescents at schools. Cowie and Hutson (2005) undertook a strategy to bystanders challenge school bullying. Their results indicated that peer support does not always reduce the incidence of bullying. It is an effective preventive measure reducing the negative impact of bullying on victims and it was accepted and valued for contributing to their quality of life including the empowerment of bystanders at bullying episodes (Cowie & Hutson, 2005).

2.1.4 Negative factors influencing peer interactions at schools

Many studies have focused on cooperation in small groups in order to improve peer interactions for effective learning and teaching in the classrooms (Webb, 1989; King, 1990; Jeffrey, 2010). This study categorizes the following negative factors that could explain the influence of peer interactions including peer rejection and peer bullying.

2.1.4.1 Peer rejection

Peers can have a positive or a negative influence on adolescents' behaviours at schools. It has a negative influence when adolescence as a transition from childhood is characterized by many attachments needs to be satisfied such love, support, belongs and so on. Being rejected by peers can affect negative individuals, social, educational results to the adolescent's development. According to Dodge, Lansford, Burks, Bates, Pettit, Fontaine and Price (2003), the term "peer rejection" can be characterized as personality trait, considering to rejected children and children with mental retardation. It further can refer to other types of children such as rejected-aggressive or rejected-withdrawn children. However, this study adopts interpersonal negative factors and experiences of victimization by peers that might influence the interaction with peers in the social development of adolescents at schools. In addition, this peer rejection describes the relationship among adolescents and their peers in group. However, the researcher agrees on the essence of preventing adolescents from learning social skills instead of leading adolescents to the development of negative expectations about their future relationships. Dodge, *et al.* (2003) investigated peer rejection as a predictor of later aggressive behavior. They found that the long adverse impact of peer rejection among adolescents and antisocial behaviours among African American adolescents in that poor interaction with peers caused emotional distress and affected psychological well-being and social development of learners at schools. On their part, Gooren, van Lier, Stegge, Terwogt, and Koot (2011) highlighted that children who received their social position swiftly and once poorly accepted, remain poorly accepted by their peers. This imply that chronic peer rejection may emerge early in life.

Korkiamäki (2014) conducted a qualitative study to investigate adolescents' perspectives about the exclusion in the peer groups and experiences associated to their emotional well-beings. Dialogical interviews were used as technique for data collection with a sample size of 126 participants. Korkiamäki's (2014) results revealed that participants experienced outsidership in nearby peer groups. These experiences relatively depended on individuals, some are completely experienced by being constantly victimized by all to the sense of being rejected in larger peer group, whereas others still having close friends and temporarily feel by being ignored in immediate to their peer group especially in school settings. Korkiamäki's (2014) believed that being an outsider is not caused emotional stress or problems, but it is that feeling of not being part of something at certain group of same age peers or the youth in general.

2.1.4.2 Peer bullying

Many scholars, national and international organizations have documented on the bullying issues in schools (Espelage, & Swearer, 2003; Nansel, Craig, Overpeck, Saluja, & Ruan, 2004; Lemstra, Rogers, Redgate, Garner & Moraros, 2011; Zaine, Reis, & Padovani, 2010). Others have emphasized on the serious problems identified in young adolescents and that are caused by bullying at schools and a great effort has dealt with public and academic awareness needed to protect children from these violent incidents (Bibou-Nakou, Tsiantis, Assimopoulos, Chatzilambou, & Giannakopoulou, 2012). However, these researchers still agree that the difference of bullying from other aggressive and abuse behaviours is its repeated feature by the silence and powerlessness of the victim.

a. What is peer bullying?

There is extensive literature on the concept of bullying at school (Smith & Levan, 1995; Elinoff, Chafouleas & Sassu, 2004). Burton and Leoschut (2013:2) in *School Violence in South Africa*, have defined bullying as too inconsequential constitute of violence with little recognition of the psychological, emotional and or physical damage that can be used. On their part, Krug, Dahlberg, Mercy, Zwi, and Lozano (2002) consider bullying as an intentional use of physical force or power force or power, susceptible or actual against another person, or a group or community, that either results in or has a high likelihood of refusing in injury, death, psychological harm maldevelopment or deprivation. However, this study proposes to focus on the Olweus's (1999) work as pioneer of bullying. Therefore, a student is bullied or victimized when he or she is exposed to an aggressive behaviour or intentional harming, repeatedly and over time to negative actions in interpersonal relationship with other students (Olweus, 1999). As a result, Olweus's (1999) definition covers various natures, direct physical bullying is visible and bullying is considered as indirect as invisible. It is authoritarian and conflicted culture in school (MacDonald & Swart, 2004). Olweus (1999) highlighted this latter sort of bullying predominate among girls. Studies in education have indicated that bullying is a persistent and alarming challenge in schools. Researchers have observed consistency of results in gender differences in South Australia (Rigdy, 2000; Delfabbro, Winefield, Trainor, Dollard, Anderson, Metzger, & Hammarstrom, 2006), in Sweden (Björkqvist, 2001), and in South Africa (Townsend, Flisher, Chikobvu, Lombard, & King, 2008), with boys significantly more to be offenders of bullying

than girls and to tend to involve in a wider range bullying behaviours. According to Kelly (2103), regardless the frequency of bullying happening, it had at least affected psychological distress to human being. Evidence has suggested that adolescent victimized of bullying scored lower on cooperativeness. This is to suggest that children who are bullied are more isolated or may have lack of interpersonal skills to interact with others in social networks (Perren, & Alsaker, 2006; Delfabbro, *et al.*, 2006; Rigby, Cox, & Black, 1997). Olweus (2007) explained that bully's pattern of behaviour is dominated by a process whereby one individual with a great deal of internal anger, resentment and aggression chooses to displace his or her behavior onto the chosen vulnerable victim, and using tactics constant criticism, nit-picking, exclusion, isolation, teasing etc. Pepler and Craig (2008) believe that bullying could manifest as a range of behaviours including name calling, extortion, physical violence, nasty rumors, exclusion from group, damage to property, and threats (intimidations).

b. Nature of bullying from adolescents at South African schools

The phenomenon of bullying is not new in the worldwide for adolescents around the globe (Pepler & Craig, 2008) and over years as it has become serious due to its interpretation at cross-national dimensions. Fewer researchers considered bullying as at elementary level (Every day newspapers and TV reported of causing self-harm due to some form of bullying in South African schools. However, it is relevant in this study to expand our understanding on the nature of peer bullying from adolescents who exhibit bullying behaviours as well as those who do not exhibit bullying behaviours, in terms of age and gender differences in the specific environment. The criteria of incidence of bullying behaviours have been subject to debate. Smith, Cowie, Olafsson, and Liefoghe (2003) revealed that bullying often happened without any apparent provocation illustrating. Others scholars suggested that bullying is a result of proactive provocation from the bully victims (Camodeca, Goossens, Schuengel, & Terwogt, 2003). Still some others have emphasized that bullying is often apprehended after schools (Rivers & Smith, 1994). Consequently, school bullying can lead to changing nature of multiple forms of violent and disastrous consequences for both victims and bullies in the community. Magano and Ramnarain (2015) highlighted that bullying in schools is a frequent mirror of what occurs at home and in the surrounding communities. The nature of school bullying could be characterized by act including verbal, physical, psychological, sexual, cyber, or in other ways such as making faces or mean

gestures and intentional exclusion from a group. Literature on school bullying is generally associated with violent victimization and later aggressive behaviour during adolescence at schools. Burton and Leoschut (2013) reported that individuals who are victims of violence at young age run at greater risk of themselves involving in violent and antisocial behaviours during adulthood. Correspondingly, those who are bullied at school run at greater risk of themselves involving in bullying behaviour during adulthood in the community. Darney, Howcroft, and Stroud (2013) explored the effect of chronic bullying at schools in South Africa. They found that adolescent victims of bullying reported higher level of self-esteem problems during the adulthood. Regarding sex differences of bullying behaviours at schools, Rivers and Smith (1994) reported that direct physical bullying was more prevalent for boys than girls in secondary schools while verbal bullying was more prevalent for girls than boys. Thus, indirect bullying described that boys were less bullied than girls. Rivers and Smith (1994) reported that the type of bullying can occur in all locations around the schools. In his instance, the indirect bullying could happen in classroom and corridors of school. It could be avoided during lunch-time and break-time. It continued in a more direct form before and after schools where there is a little opportunity to seek assistance from adult (Rivers & Smith, 1994). Regarding to if or not bullied or not learners had told an adult about being bullied. Rivers and Smith (1994) revealed that there were no differences with gender differences likely to tell an adult about direct bullying rather intersect bullying.

c. Factors producing bullying in South African schools

Bullying in schools could result from various complex and community factors related to parental practices, peer pressure. As a result to substance abuse, Burton and Leoschut (2013) acknowledged that the use of drugs and alcohol among learners could lead to violence and unacceptable behaviours. This is because the users need money to maintain their habits and the failure to get a supply and this can result in criminal activities. Based on bias and prejudice, however, Scherr and Larson (2006) indicated that ethnicity, religion and sexual orientation could be contributing factors to peer bullying in South African schools. These incidents involved an unreasonable hatred of a person's race, religion are significantly raised especially in high schools. Based on the socio-economic situation and education system changes, Diale (2010) investigated educational psychological practice framework for Life Orientation (LO) teachers

and the results showed that many LO teachers dealt with challenging social issues as bullying. These teachers were not effectively equipped with skills to address these issues. They dealt with this issue in an unacceptable way and it infringes the learner's human rights and lead to conflict among learners in schools.

It is essential to address all adolescents' realities and experiences of bullying in order to develop anti-bullying strategies and fight it in all its forms among their peers at schools. To the schools, the realization of bullying is not only limited on one form and it has not happened on one place at the schools. Instead, it occurred in many contexts off schools. The teachers reported that as the big challenges they are faced in these schools. An intervention need to be developed in order to fight bullying at schools.

Given the importance of peer interactions, however, the researcher cannot specify peer interactions without making some difference between having friends and quality of friendship. Researchers have found a difference between the quality and type of interactions that adolescents have with friends and non-friends. Shin (2010) explored how children share and experience friendships. Shin's (2010) study found that reciprocated friends could be having a key component in the close friendship between two individuals. Also, the study revealed that it could exhibit strong preference and positive affection mutually each other. Wentzel, Barry and Caldwell's (2004) study indicated that when children interact with friends they display significantly greater amount of social contact such as talking, cooperation and positive affect, they demonstrate more concern with resolving interpersonal conflicts and they are less likely to instigate conflict when engaged in cognitive related tasks together than do with non-friends.

Berndt (2004) conceptualized friendship quality and social development. He found that adolescents showed towards friends some quality features during friendships. These features include prosocial behaviours, loyalty, self-esteem support, and intimacy.

Harper and McCluskey (2003) studied the ways adults inhibit peer interactions. According to Harper and McCluskey (2003), peer interaction can be considered as a natural context, because during that time, adolescents still develop their social skills and beliefs. Furthermore, Harper and McCluskey's (2003) findings revealed that the teachers' choosing to initiate interactions when children were alone could explain the negative correlations between adult and peer interactions. Perceived teacher as supportive Patrick and Ryan (2003) studied the analyses of measures of dimensions of the classroom social environment.

2.1.5 Debate on the previous studies

It is relevant to consider teacher, parents and peers as the provider of social support to well-being to adolescents. With regard to peer interaction among adolescents, Hanish and Fabes (2013) reported that parents help adolescents to structure and organise their peer interactions, and maximize on the benefits of peer socialisation. Helsen, Vollebergh and Meeus (2000) examined the relationship between social support from parents and friends, and emotional problems among adolescents in terms of gender and age differences. Their sample size comprised of 2918 participants, of which 12396 were girls and 1193 were boys, aged between 12-24 years old. Helsen and colleagues hypothesized that gender and age differences would predict the relationship between support of parents and friends and emotional problems in adolescence. They used parental and friends' support, emotional problems as measurements for data collection (Helsen, *et al.*, 2000). As a result of correlation and regression analyses, Helsen and colleagues found that parental and friends' social support appeared relatively independent to support systems. Although the degree in which social support changes in their expected direction, which is parental support decreased and friends' support increased among adolescents, consequently parental support remains the best predictor of emotional problems for adolescents (Helsen, *et al.*, 2000). The influence of friends support depends somewhat on the level of perceived parental support. They concluded that the higher parental support shows a slightly positive influence of friend's support, while a lower parental support indicates negative influence of friend (Helsen, *et al.*, 2000). This study showed that gender significance difference with parental support, which suggested girls are strongly supported by their in parents than boys in adolescence, age difference was not significant.

The parental support is considered to be a strongest predictor to maintain peer interaction among adolescents with the same cultural ethnic in American schools. In line with this view, Phinney, Romero, Nava and Huang (2001) examined the relative importance of parental efforts to maintain the culture and interaction with peers from the same ethnic group. Phinney, *et al.* (2001) explored a sample of 216 adolescents from three immigrant backgrounds (81 Americans, 47 Vietnamese, and 88 Mexican) in diverse schools in Los Angeles area and with their parents. They used instruments of parental cultural maintenance and parental demographic variables to the parents, and ethnic identity, ethnic language proficiency, intergroup peer social interaction,

and adolescent demographic variables for adolescents. The bivariate correlation among all the variables indicated that parental cultural maintenance was significantly related to adolescent ethnic language proficiency (Phinney, *et al.*, 2001). Phinney and colleagues found that parents enrolled their children in American language schools as part of their means to maintain their ethnic identity or cultural heritage. Of the three groups, only one was significantly found social interaction with peers related to ethnic identity among adolescents at schools. In conclusion, it appears that in immigrant families we can have an important influence on their adolescent's sense of their ethnicity, either directly or through the promotion of their social interaction among adolescents at schools, in the home.

As a result, teacher and peers provide support to develop social interactions among adolescents in schools. Wentzel, Battle, Russell and Looney (2010) examined the degree to which teacher and peer supports with regards to aspects of social and academic motivation as adolescents expressed their interest in class and the efforts to behave in positive ways. Data were gathered from adolescents from grades 6, 7, 8 and 9 in some high schools in the USA. Standardized instruments were used to measure the emotional support, safety, help, expectations for positive social behaviour, expectations for academic engagement, interest in class, and pursuit of social goals (Wentzel, *et al.*, 2010). Wentzel and colleagues found that teachers and peers can provide adolescents with multiple supports such as expectations for specific behavioural and academic outcomes, provision of help, safety, and emotional nurturing in schools. Also Wentzel, *et al.*'s (2010) findings further indicated the utility of a multiple dimensional definition of social support that recognizes the independent contributions of teachers and peers to adolescent's motivation in schools. They concluded that adolescents possibly manifest positive aspects of social and academic motivation, when they perceive support from their teachers and peers. They provide help, advice, instruction to achieve these outcomes, and emotional support, and they create a safe and non-threatening classroom setting (Wentzel, *et al.*, 2010).

Previous studies have been conducted on the relation of adolescents with others, the characteristics of their classrooms, their well-being and how they engage in academic work. Košir, Sočan, and Pečjak (2007) established the predictive value of the quality of relations with peers and relations with teachers in academic achievement of adolescents. Their hypothesis was

that the relation with peers would independently influence adolescent's academic achievement. This influence is mediated by the well-being of adolescents in schools. The sample comprised 1159 adolescents from 49 classrooms in elementary and secondary schools. Participants ranged the age from late childhood to early and middle adolescence. Different variables were taken into consideration to measure peer relations such as social preference, peer perceived popularity, number of friendships, number of reciprocal friendships, peer academic and personal support. Peer perceived academic achievement was employed to measure academic achievement of adolescents in schools. Social support was conceptualized as the support that adolescent learners perceived and received from their teachers, parents or guardians, peers or classmates, and their schools. The operationalization of social support was employed by the measurement of three types of supports including emotional, information and instrumental.

2.1.5.1 Teacher support of adolescents in schools

According to Department of Education (2001:22) support is all the activities that enhance the capacity of a school to cater for diversity and ensure effective learning and teaching for all their learners. However, this study identifies some researches that have investigated the schools with regard to teacher support for increasing peer interactions among learners.

It is evident that teachers provide social support, but this depends on the extent of support such as high, moderate, or low, and on the individual interest and capacity of teacher's efficiency. In a study that aimed to examine the young children's play interactions and beliefs in inclusive schools, Harper and McCluskey (2003) used a sample of 21 typically developing children and 29 children with and without disabilities. They employed observations through videotaping as instrument and correlation as method of data analysis. Harper and McCluskey (2003) found that the teachers' choose to initiate of interactions when children were alone. This could explain the negative correlations during the time interacting with peers exchanges with age mates.

In the same perspective, Mwakalinga (2012) investigated on how the teacher's efforts are used in supporting social interactions for learners. Mwakalinga's (2012) objective was to determine teacher's influence on the development of social interaction for learners with autism in primary school. Mwakalinga's (2012) sample size consisted of two (2) teachers of special need education program from two different schools. Secondary data and primary data were used in this study, which included existing books, journals, internet, and interviews. Mwakalinga's (2012) findings

indicated that teachers were considered as providers of good support and they properly used it in several methods of teaching social interaction. These techniques concerned the assistance by repetition of actions, plays, and the simplifying the activities, enrolling children in organized social activities.

According to Department of Education (2001:22) support is all the activities that enhance the capacity of a school to cater for diversity and ensure effective learning and teaching for all their learners. However, some studies were conducted in the schools with regard to teacher support for increasing peer interactions among learners. The extent of support such as high, moderate, or low depended on the individual interest of learners and capacity of the teacher's efficiency.

Research on social relationship development in adolescence revealed that girls generally appeared to receive more social support than boys (Furman & Buhrmester, 1992; Helsen, Vollebergh, & Meeus, 2000). Hombrados-Mendieta, Gomez-Jacinto, Dominguez-Fuentes, Garcia-Leiva, and Castro-Travé (2012) conducted a study on the type of social support that is provided by parents, teachers, and peers to adolescents. The sample size comprised of 447 participants for the Malaga Province, Spain. They used a questionnaire as a technique to measure the frequency of support and the level of satisfaction and to assess the sources of support (father, mother, classmates, and teachers) and kinds of support (emotional, informational instrumental). Hombrados-Mendieta and colleagues found that during 12 to 14 years old age group, the mother provided significantly more emotional, informational and instrumental support than father in family setting. They further reported that classmates provided significant more support than teachers at schools (Hombrados-Mendieta, *et al.*, 2012). In addition from 15 years up to, classmates developed support similar or greater than to father and mother. Hombrados-Mendieta and colleagues' results suggest that emotional support is the most important, followed by instrumental and informational support.

2.1.5.2 Parental, teacher and peers supports in relation with interaction among adolescents

It is commonly known that parents and peers provide support to adolescents. With regard to interaction among adolescents, this study proposes to establish the kind of support adolescents receive from their parents and peers. According to Valdner (2014), the support from parents,

teachers, and peers significantly plays a role in adolescents' development, and it provides values and goals to adolescents. Parents, teachers and peers are considered as helpers, advisors, guides, supervisors, supporters and controllers of adolescents, in schools context (Wentzel, Battle, Russell & Looney, 2010), as solver problems and conflicts among their peers in socially acceptable ways, when organizing themselves to develop a specific activity (Poulin, Nadeau & Scaramella (2012).

With regard to parental support on peer interaction among adolescents, Hanish and Fabes (2013) argue that parents are advised to help adolescents structure and organise their peer interaction to maximize the benefits of peer socialisation. Chaplin and John (2010) mention that support is generally concerned with behaviours such as encouraging adolescents to communicate feelings, encouraging autonomy and self-expression, providing acceptance and support, allowing adolescents to think independently. In fact, adolescents need support from their parents in interaction with their peers in order to satisfy their social activities. According to Desforges and Abouchaar (2003), parental support is the provision of parenting skills training, advice and guidance for parents on adolescent engagement, achievement.

del Valle, Bravo and Lopez (2010) investigated the developmental perspective of parents and peers as providers of support in adolescents' social network. They analysed adolescent' social support and considered two factors. Firstly, the type of support provider concerned their role (father, mother, and friend) and their context (school, community, association). Secondly, the type of perceived support and that was categorised in instrumental and emotional support. del Valle, Bravo and Lopez's (2010) findings revealed that adolescents of 12-13 old years received their emotional support from parents as principal provider. The perceived support significantly increased from peers especially those from community in the age ranged 13-14 years, and continued in a development. This showed consistency as instrumental support at 14-17 years increased from peers and decreased support from parents especially from father, parents maintained a higher level of instrumental support during adolescence (del Valle, Bravo & Lopez, 2010).

Studies on adolescents in cultural approach help to understand the parental assistance to adolescents with regard to peer interaction. A study by Klarin, Šimić Šašić and Proroković's

(2012) examined the role of peer interactions among adolescents with regards to different cultural contexts. Klarin, *et al.*'s (2012) hypothesis was that there will be a greater contribution from family interaction than peer interaction in the explanation of self-esteem in gender. Klarin, *et al.*'s (2012) sample involved 1033 adolescents (444 boys and 581 girls, 8 was missing their gender) from high schools in three countries including Republic of Croatia (390 adolescents), Bosnia and Herzegovina (353 adolescents), and Macedonia (290 adolescents). This study employed standardized instruments such as family satisfaction scale, scale of loneliness in the family and the scale of social loneliness, friendship quality scale, self-esteem scale (Klarin, *et al.*, 2012). These instruments measured respectively a child's feelings about his/her family as a whole, loneliness in the family and social loneliness, and evaluated emotional support, conflict-solving, mutual helping and sharing. It measured self-esteem of adolescents. Klarin, *et al.*'s (2012) findings showed that adolescents from these different cultures varied in their social interactions with peers in their level of self-esteem. These differences related to self-esteem to the cultural environments. They further found a highest level of self-esteem among adolescents in Croatia, followed by adolescents from Macedonia, whereas the lowest level of self-esteem was in Bosnia and Herzegovina. Klarin, *et al.*'s (2012) results indicated no significant gender difference of self-esteem. The Klarin, *et al.*'s (2012) regression analysis confirmed the hypothesis that revealed a greater contribution from family interaction to the development of self-esteem than from the quality of peer interaction in three groups of adolescents from diverse cultural backgrounds. Furthermore, the findings showed that family interaction was significantly greater in the description of self-esteem for both boys and girls than the contribution of peer interaction (Klarin, *et al.*, 2012). From Klarin, *et al.*, (2012) result, it is obvious to confirm that family plays a more significant role than peer interaction. The parental supports, given love, understanding to adolescents contributed to their development of self-esteem. Since this study covered peer interaction influence the development of self-esteem in Europe nature, there remains a reasonable need to extend the peer interaction approach regarding other psychosocial factors among adolescent in schools in South Africa.

The parental support has been considered as strongest predictor to maintain peer interaction among adolescents with the same cultural ethnic in American schools. Phinney, Romero, Nava and Huang (2001) examined the relative importance of parental efforts to maintain the culture and interaction with peers from the same ethnic. They surveyed 216 adolescents from three

immigrant backgrounds (81 Americans, 47 Vietnamese, and 88 Mexican) in diverse schools in Los Angeles area and their parents. Phinney, *et al.* (2001) employed parental cultural maintenance and parental demographic variables as instruments to assess parents, and ethnic identity, ethnic language proficiency, intergroup peer social interaction, adolescent demographic variables was employed to assess adolescents. The bivariate correlation among all the variables indicated that parental cultural maintenance was significantly related to adolescent ethnic language proficiency (Phinney, *et al.*, 2001). This study found out that parents enrolled their children in American language schools as part of their means to maintain their cultural heritage. In conclusion, it appears that immigrant families can have an important influence on the adolescents' sense of their ethnicity, either directly or through the promotion of their ethnic language in the home.

The Kef and Deković's (2004) study has significantly contributed to the understanding of parental support in structure of peer interaction among adolescents in the schools. In a study that aimed to compare the perceived level of social support of adolescents without impairment and with visual impairment, Kef and Deković (2004) carried out a comparative study to differentiate the aspect of parental social support to adolescents including emotional support, practical support and social companionship. The sample was collected in two groups. The first visually group comprised of 178 adolescents (98 males and 80 females) with a visual impairment from 14 to 18 years. The second sighted group concerned 338 adolescents (170 males and 168 females). The Kef and Deković's (2004) study employed Personal Network List (PNL) to measure social support from parents, siblings, best friends, friends, and classmates/colleagues. To compare the perceived level sources of supports, Kef and Deković's (2004) used correlation statistics and their findings revealed a positive correlation among three forms of supports. Based on level of support, Kef and Deković's (2004) study indicated that adolescents without impairments were significantly more supportive from their parents as well as from their peers, than those with visually impairment. As a result to the source of support, the visually impaired group showed more social support from their parents than from peers. In summary, Kef and Deković (2004) concluded that adolescents visually impaired have experienced less support than adolescents without impairments particularly support from their peers.

Wentzel, Battle, Russell and Looney (2010) examined the degree to which teacher and peer supports with regards to aspects of social and academic motivation as adolescents was expressed by interest in class and efforts to behave in positive ways. Their sample consisted of 358 adolescents from grades 6, 7, 8 and 9 in high school in USA. Data were gathered with a standardized questionnaire to measure emotional support, safety, help, expectations for positive social behaviour, expectations for academic engagement, interest in class, and pursuit of social goals (Wentzel, *et al.*, 2010). Wentzel, *et al.*'s (2010) findings revealed that teachers and peers can provide adolescents with multiple supports (expectation for specific behavioral and academic outcomes, provision of help, safety, and emotional nurturing) in schools. They further maintained the utility of a multiple dimensional definition of social support that recognizes the independent contributions of teachers and peers to adolescent's motivation in schools. This influence of multiple supports differs as a function of source of support such as adolescent sex, grade level teacher, and classroom, and in their relations to interests and social goals pursuit. They finally concluded that adolescents possibly manifest positive aspects of social and academic motivation, when they perceive that their teachers and peers provide clear expectations for social and academic outcomes (Wentzel, *et al.*, 2010). They provide help, advice, instruction to achieve these outcomes, and emotional support, and they create a safe and non-threatening classroom setting (Wentzel, *et al.*, 2010).

Studies have been conducted on the relationship of adolescents with others, the characteristics of their classrooms, their well-being and how they engage in academic work. In this regard, a study conducted by Košir, Sočan, and Pečjak (2007) established the predictive value of the quality of relations with peers and relations with teachers in academic achievement of adolescents. Košir and colleagues hypothesized that the relation with peers would independently influence adolescents' academic achievement and that this influence would be mediated by the well-being of adolescents in schools. The sample comprised of 1159 adolescents from 49 classrooms in elementary and secondary schools. Participants ranged from the age of late childhood to early and middle adolescence. Different variables were taken into consideration to measure peer relations such as social preference, peer perceived popularity, number of friendships, number of reciprocal friendships and peer academic and personal support. Peer perceived academic achievement was employed to measure academic achievement of adolescents in schools (Košir,

et al., 2007). Their correlation analyses showed that social relation and academic engagement were not mediated through age groups among students in school. It further indicated a strong relationship between peer and teachers reports variables.

Updegraff, Kim, Killoren and Thayer (2010) examined the nature and correlates of Mexican American mothers' and fathers' involvement in adolescents' peer relationships along four levels such as support, restriction, knowledge, and time spent with adolescents and peers. They hypothesized that parents would be more responsive to the qualities of girls' peer relationship, including placing greater restrictions on girls' than on boys' relationships when they affiliate with deviant peers. The sample consisted of 246 families (125 girls and 121 boys) selected around southwestern metropolitan area and the target adolescent was focus on parents' role in the 7th graders 'relationships (Updegraff, *et al.*, 2010). Their correlation analyses found that parent and adolescents were moderated the patterns, only with mothers' but not fathers' restrictions on peer relationships, when their children are associated with adolescents' deviant peer relationships (Updegraff, *et al.*, 2010). Furthermore, parents placed greater restrictions on their daughters' than on their son' peer relationships when they had more frequent deviant peer affiliations at schools.

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With regards to the goal of the study concerning the kind of supports francophone adolescent learners receive from their parents and how this can influence peer interactions in the selected schools in the Western Cape. Scholars have relatively provided evidence that peer interaction among adolescents has a strong impact on the daily functioning of their academic performance. Most of the previous above reviewed on the psychological and social supports have used a quantitative approach; thus involving large sample sizes and they have attested the generalizability of the results. Furthermore, due to insufficiency of literature on peer interaction, most of the previous studies have been conducted in developed world, and that only few reviewed studies are available from Africa. Thus this study purports to fill the gaps by using qualitative data to provide the comprehensive results on the psychosocial factors affecting peer interaction among adolescents in the high schools in the Western Cape.

Scholars above-mentioned have focused differently in psychosocial factors in the schooling perspectives with diverse features of population, none investigated the psychosocial factors that affect peer interactions among francophone adolescent learners in South African schools. Given the importance of the understanding of the influence of peer interactions among francophone adolescent learners, this study considers psychosocial factors as a whole, comprising of psychological factors, social supports, and cultural differences influencing peer interactions amongst francophone adolescent learners in high schools in the Western Cape Province, South Africa. These psychosocial factors vary in form and function in response to variations among individuals in the sociocultural conditions.

2.2 Theoretical framework of the study

The theoretical framework in this study constitutes a structure that helps to understand how the research questions are created by reflecting the relationship between the psychosocial factors and peer interaction. In order to understand this relationship, this study is informed by Vygotsky's sociocultural theory and the policy of White Paper 6 (see Figure 4.3).

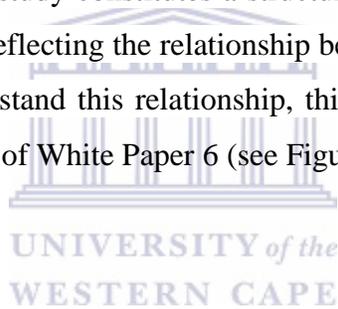
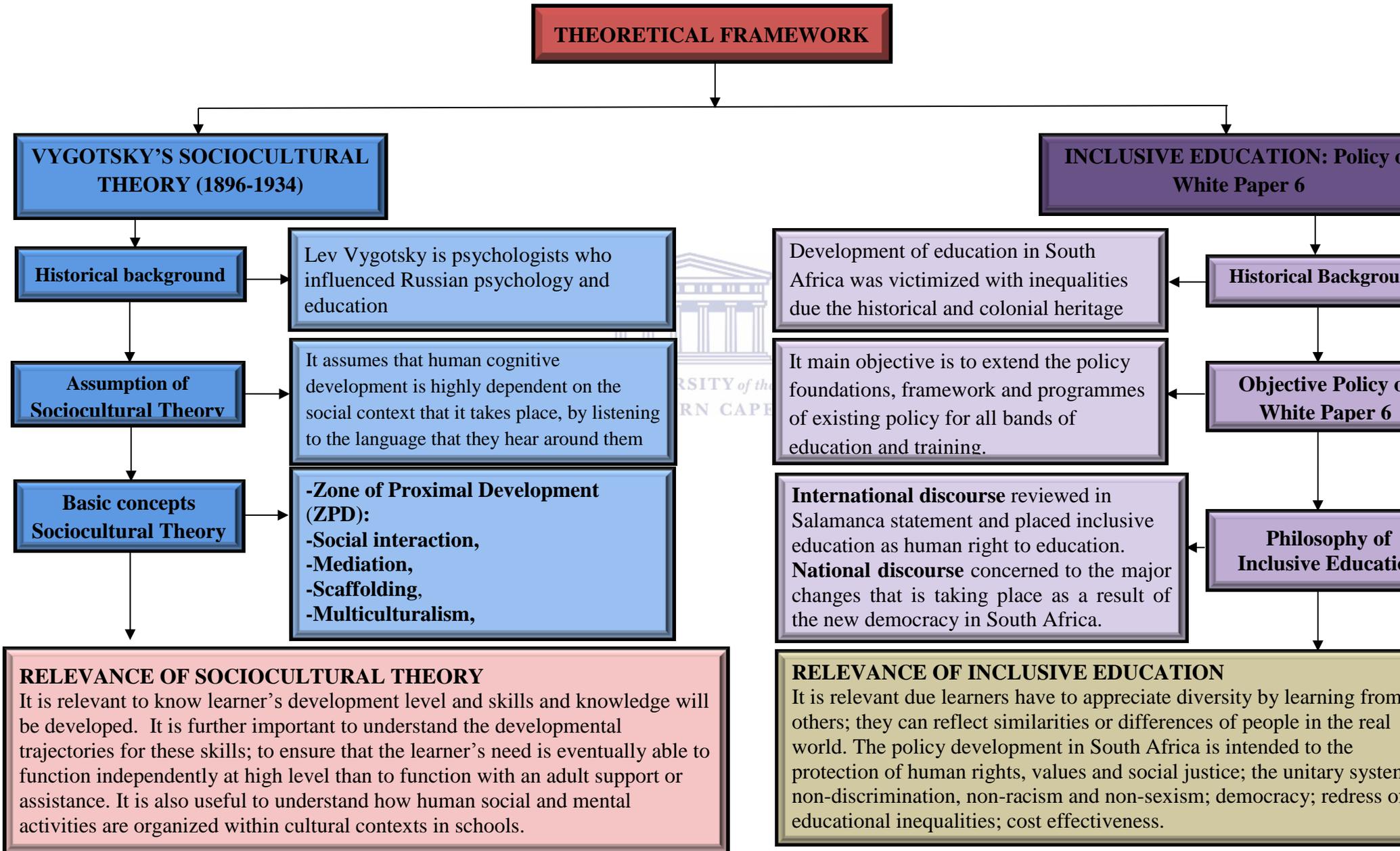


Figure 2.2: Theoretical framework' overview of the study



2.2.1 Vygotsky's sociocultural theory (1896-1934)

The use of Vygotsky's sociocultural theory in this study is to understand how psychological, social and cultural factors can influence peer interaction amongst adolescent learners in high schools. This section focuses on the overview of Vygotsky's sociocultural theory and it states the key and relevant assumptions of this theory. From the outset, it is worth to mention that Vygotsky's (1978) theory's main assumption is that a child needs supports for learning process from his/her peers, parents and teachers in order to extend his/her highest potential in social interaction. Therefore, this chapter reviews Vygotsky's sociocultural theory with a focus on the key concepts of Zone of Proximal Development (ZPD), peer interactions, mediation, scaffolding and multiculturalism in school settings. Furthermore, the implications of Vygotsky's sociocultural theory are discussed as well.

2.2.1.1 Historical background of Vygotsky's sociocultural theory

Early twentieth century, Lev Vygotsky (1896-1934) is one of psychologists who influenced Russian psychology and education. Lev Vygotsky was inspired under motivation of certain philosophers including Marx, Durkheim, Hegel (Piaget, 2008, Panofsky, 2003). During that time, Vygotsky was considered as the first coherent scholar who attempted to explain "a crisis in psychology" from a Marxist point of view (Valsiner, & Van der Veer, 2000:143), due to the diversity of approaches and objects of the study that were grouped under the general rubric of psychology (Lantolf & Thorne, 2006:198). Hakamäki (2005:24) argues that the theoretical framework of sociocultural theory is generally advocated on the Vygotsky's work and his colleagues such as Leont'ev and Luria. However, two main groups were approached such as behaviourism and psychoanalysis. Vygotsky (1978) used two methods in his works. The first method is the dialectic method that consists of understanding the interconnections between some components of human activities. These components include cultural, social and historical development of human activities. The second method is the experimental method that consists to develop the modifications that are provoked in the laboratory settings. Turuk (2008) highlights that Vygotsky considered the biological factors as necessary elementary process to emerge while sociocultural factors as an indispensable elementary natural process to develop individual cognition. In this study, the researcher agrees with Scott and Palinscar (2009:1) that the sociocultural theory helps to explain how individual mental functioning works regarding to

cultural, institutional and historical context. In light of the preceding clarification, it appears that the sociocultural theory is basically founded in two principal concepts including “social” and “culture”. With regarding to sociocultural theory, Lantolf and Thorne (2006:197 in Ratner, 2012) argue that human mental functioning is basically a mediated process that is structured by cultural activities. Unfortunately, Vygotsky died at the age of 38 years and could not develop further his works.

2.2.1.2 Assumptions of Vygotsky’s sociocultural theory

Scholars have defined and clarified key assumptions of the sociocultural theory and its relevance for research in the field of educational psychology and education. One key assumption of the theory is that human cognitive development is highly dependent on the social context within which it takes place (Lantolf & Appel, 1994, Fernyhough, 2008) and generally by listening to the language that they hear around them (Littlefield-Cook, Cook, Berk, & Bee, 2005:26). According to Vygotsky (1978), human cognition, even when carried out in isolation, is inherently sociocultural, affected by the beliefs, values, tools of intellectual adaptation that it passed to individuals by their cultures (Shaffer & Kipp, 2014:231). This development happens as the result of meaningful verbal interaction between novices and more knowledgeable interlocutors including parents, peers, or teachers (Darhower, 2002:251). This assumption suggests that Vygotsky theory is basically found in the learning processes. This is to suggest that peer interaction facilitates or mediates the learning process. However, it is worth to mention that the focus of learning is not only within the individual mind, but it is the result of social interaction with other individuals. For example, at school as growth environment of learners, Vygotsky (1994) argues that individual and environment should not be viewed as distinct factors that can in some way be added up to explain the individual’s development and behaviour (Ven der Veer 2007:22). These factors should be mutually shape each other in a spiral processes of individual growth. This is explained when learners are involved in doing certain tasks with the assistance of their peers or teachers; adopting the way to carry out the same task by them.

2.2.1.3 Basic concepts of Vygotsky’s sociocultural theory

There are some concepts that are associated to Vygotsky’s sociocultural theory in light of human development (Eun & Lim, 2009). This study proposes to focus on five concepts that the

researcher's beliefs are central to inform the study. These concepts are: (1) Zone of Proximal Development (ZPD), (2) social interaction, (3) scaffolding, (4) mediation, and (5) multiculturalism. The researcher believes that the clarification of these concepts will help to determine the relationship between social supports from teachers, parents, or peers and peer interactions in the selected high schools in the Western Cape. This will further help to understand the positive and negative factors that affect francophone adolescents in schools related to peer interaction.

2.2.1.3.1 Zone of Proximal Development (ZPD)

The concept Zone of Proximal Development (ZPD) has largely been reviewed in different ways (Bockarie, 2002). This ZPD is now appeared in most development of educational psychology. According to Nguyen (2013), Vygotsky's ideas primarily proposed the ZPD to describe how the cognitive development happens in children. In that case, Vygotsky (1978: 86) defined ZPD as the distance between the actual development level, as determined by independent problem solving, and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers. This is to suggest that the ZPD is the distance between the child's individual capacity and the capacity to perform with assistance (Vygotsky, 1978). However, Langford (2005:189) assumes that this concept (ZPD) used by Vygotsky is multifaceted and constitutes of three major aspects:

1. First, a concept or a meaning can be successfully taught somewhat more than a full stage before its spontaneous appearance.
2. Second, the assessment of what the child can do with help is more predictive of future success than the assessment of what it can do without help.
3. Third, there are qualitative differences between taught and spontaneous concepts (Langford, 2005:189).

Contrary to the above-mentioned, However, Kozulin, Gindis, Ageyev, and Miller (2003:3) emphasized the problematic nature of ZPD concept by explaining this in three contexts. Firstly, the developmental context involves clarifying the emerging psychological functions of the child. Secondly, ZPD concept is employed as metaphoric "space" that the daily contexts of the child meet "scientific" concepts provided by teachers or other mediators of learning. Lastly, the

applied context deals with the explanation of difference between the children are individual and aided performances related to the assessment and learning in classroom. However, the researcher in this study deals with latter context in order to apply peer interactions among francophone adolescent learners in schools. In agreement with Chaiklin (2003:41), these three aspects are based on the generality assumption which is applicable to learning all kinds of subjects matter. The assistance assumption involves that learning is dependent on interventions by other more competent people, and the potential assumption deals with the property of learner, which enables best and easiest learning. This can be viewed in how learners solve an interactive problem at the developmental level. With regard to ZPD, Vygotsky suggests that it is important to employ the process of social support or assistance in the schools. This is to suggest that a more capable learner as peers can provide assistance to others or their peers. Consequently, learners with less experience or less ability of peer interactions may perform above the ability level when sharing a problem-solving with an experienced or skilled person. The ZPD creates an opportunity for learner's growth by providing the interaction with other more skilled learners. To Vygotsky (1978), the ZPD holds functions that have not yet matured in children. He goes on stating that the potential for cognitive development of children is limited to a ZPD. This zone is the area of exploration for which the learner is cognitively prepared, but requires help in terms of social interaction to fully develop (Bruner, 1999). During the assistance process, they interact and give an opportunity to perform at the level that they cannot achieve on their own; suggesting that the ZPD is formed through social interactions. Oakley (2004) found that in adult-child interaction, children achieved exceptional goals more than they could perform on their own. Vygotsky's idea considered social interaction with peers as an effective way of developing skills and strategies. For example, Vygotsky cited by Allahyar and Nazari (2012:82) believes that in social interaction with their parents, teachers, and more capable peers, adolescents achieve more sophisticated goals than they do on their own. The Sociocultural theory proposes that in school settings, ZPD is an ideal concept. However, peer interaction among francophone adolescent learners should be a collaborative approach and not an isolated effort of individual where they work unassisted and unmediated.

2.2.1.3.2 Social interaction

Ageyev (2003:443) states that the notion of social interaction probably presents the main challenge and it is the source of many cultural misinterpretations. Learning is socially generated by interactions activities with others individuals (Vygotsky, 1978). According to Amin (2013), Vygotsky's sociocultural theory positions that social interaction is a fundamental factor in the development of human cognitive and high mental function of an individual. According to Ageyev (2003:446), Vygotsky's ideas attributed much more personal and interpersonal relations meaning to the notion of social interactions due to the collectivist culture where he was living in Russia. Vygotsky (1978) argued that learning performs through person-to-person interactions and then individually through an internalization process that leads to deep understanding (Fogarty, 1999 cited by Piaget, 2008:62). "Learners communicate" in classroom, as Allahyar and Nazari (2012) pointed that it is a key element of sociocultural theory. Vygotsky's ideas of internalization revealed that the gradual and progressive interpersonal exchanges can help learners to make sense of the growing evidence that children's understanding of others is rooted in their experience of social interaction (Fernyhough, 2008:229). In Vygotsky's view, learning process necessitates social interaction and social support due to the fact learners can internalize knowledge out of external action (Cook, 2008:229). Also learners participate in social activities requiring cognitive and communicative functions. From sociocultural approach stance, activities in the classroom are specially described cognitive development by the principle that learning is naturally social. Vygotsky (1978) noted that children development of their social matrix operates only when they interact with the others peers. These activities in the classroom are dominated by discourses, interactions, intra-mental processes that happen between the teachers and the learners on the one hand and among learners on the other hand. Because of the importance of sociocultural approach, Vygotsky (1978) sustained that knowledge is shaped by the skills and abilities valued as culture. Shabani, Khatib, and Ebadi (2010) argue that for Vygotsky, cultural aspects include language, beliefs, and traditions and so on. Furthermore, Vygotsky (1978) argued that language is the main instrument that prompts the development of reasoning and support cultural activities.

In this view Gass and Mackey (2006:3) believe that interaction approach is an exposure of language (input), the production of language (output), and the feedback on production (through interaction) as the important factors to understand how second language is taking place. For

Swain (2005:478) peer interactions provides learners with opportunities to use the target language which is the output. When learners reconstruct their understanding of the world in the social context, they cooperate and develop the equal relationship with their others that has common objectives. The merits of cooperative learning are how learners relate to each other with the group (Cohen, 1994). However, the type of peer interaction explored in this study can be linked as Swain (1997) introduced collaborative dialogue. The main idea of Vygotsky's sociocultural perspective is that learning is socially located and semiotically mediated. This happened in the schools when learners are interacting with others, and then integrate into the individual's mental structure. For example, every function in the child's cultural development appears twice: first, on social level and later, on the individual level; first between people (inter-psychological) and then inside the child (intra-psychological). This suggests that human intelligence is the source of society or culture, and the individual cognitive start by interpersonal (interaction with social environment) and follows intrapersonal (internalization).

In this study, the researcher believes that social interaction is very important regarding to Vygotsky's sociocultural approach. However, schools should be an environment where learners are given more opportunities to work, cooperate, and communicate with others or their peers in terms of what they can add to their knowledge. Based on Vygotsky's sociocultural theory, francophone adolescent learners should be encouraging to understand and learn each other during interactive activities in schools through the use of appropriate language of instruction like English in South African schools. This can reinforce and extend their thinking and can allow them to explore the cognitive development by succeeding in their academic and social achievements.

2.2.1.3.3 Mediation

The sociocultural approach opens a new access to answer the question concerning how does mediation operate in peer interaction in schools. The concept of mediation is traced back to the history of behavioural sciences (Fernyhough, 2008). According to Minick (1987 in Eun & Lim, 2009:15), mediation describes that the human cognitive function is referred to the process that socially meaningful activities transform impulsive, unmediated, and natural behaviour into higher mental processes by the use of tools. Kozulin (2003, cited in Eun & Lim, 2009:15)

categorize three main forms of mediation including material tools, symbolic systems and another human being. In fact, sociocultural theory particularly emphasizes on the second mediation that it ranges from signs to literary words and it uses to mediate the relationships or interaction with others. According to Vygotsky, mediation involves the use of culturally derived psychological tools including words in spoken or sign language, in transforming the relations between psychological inputs and outputs (Fernyhough, 2008:230). For Vygotsky, the greatest important sociocultural tool of mediation is language, which is vital in process of developing higher psychological functions (Hall, 2007:96). For adult or skilled peers, mediation concerns choosing which structures to introduce to the learners, deciding when and how to teach them, and helping the learners understand their usefulness. For example, learners must have the opportunities to express themselves; this should be possible when teachers give them the opportunities to talk or communicate at schools. In Vygotsky's views, mediation is the answer to the complex question of how human development occurs. As a results to the role of human mediator, Vygotsky (1978) specifies that each psychological function appears twice in mental development, the first form concerns the actual interaction between people and the second one considers as an inner internalized form of this function (Lantolf & Thorne, 2006:203). These activities are practically observed by discourses occurring among learners, peers and teachers in the classroom. With regard to peer interactions in the target language, these forms of social interaction start gradually internalized, thus inducing language development. For example, learners become independently able to use forms and function of language that should be employed only in the context of oral interactions with their peers. In addition, Vygotsky's sociocultural theory notes that mediated process is an essential element of cultural activity that can maintain the human mental development (Lantolf & Thorne, 2006, Lantolf, 2006).

2.2.1.3.4 Scaffolding

Over many years, researchers built their studies on Vygotsky's writing. Sociocultural theorists have defined scaffolding from different perspectives. In this study, the researcher reviews what scaffolding is based and how it operates in educational psychology perspectives.

According to Fernández, Wegerif, Mercer and Rojas-Drummond (2001), the term scaffolding was introduced by Wood, Bruner, and Ross in 1976. In fact, it is a metaphor for the way an expert tutor can support a young child's progress and achieve through a relatively difficulty task.

This practice is described in six features of scaffolding situations (Fernández, Wegerif, Mercer & Rojas-Drummond, 2001):

1. *To orientate child's attention to the version of the task defined by the tutor.*
2. *To reduce the number of steps that are required to solve a problem, thus simplifying the situation in the way that the learner can handle the components of the process.*
3. *To maintain activity of the child as she/he strives to achieve a specific goal, motivating her/him and directing her/his actions.*
4. *To highlight critical features of the task for the learner.*
5. *To control the frustration of the child and the risk of failure.*
6. *To provide the child with idealized models of required actions.*

According to Verity (2004:4), scaffolding is the cognitive support given to novice learner to reduce the cognitive load of the task. Moalosi (2013) argues that the term scaffolding clarifies learners' performance in learning context. According to Vygotsky (1978), "adult scaffolds in such a way it is possible for child internalize knowledge and cover it (the scaffold) into a tool for conscious control...(the adult serving as) a various form of consciousness and until such a time as the learner is able to master his own action through his own consciousness and control" (Bruner, 1996:123). Shaffer and Kipp (2014:234) note that for Vygotsky, new skills are easier to acquire whether children receive guidance and encouragement from a more competent assistance.

Vygotsky argues that the connection with social contexts concerns to support learners when learning a new task. Furthermore, the sociocultural theory illustrates that learners can succeed in situations when adults or experts interact and are provided to assist to them. As a result, learners cannot perform tasks alone; therefore they need support from adult or experts. For example, teacher makes believe play and designs specific group activities. It also concerns to introduce learners to special behaviours such as self-talk, discussion in group. This helps the learners to use self-assistant while mastering a new skill and knowledge.

2.2.1.3.5 Multiculturalism

Vygotsky's works relate to modern multiculturalism. Therefore, this section concerns of the conceptualization of multiculturalism, its application to South African schools context and the implication of multiculturalism to Vygotsky's sociocultural theory.

a. Conceptualization of multiculturalism

Educational psychologists and scholars have increased their studies around results of cultural diversity, intercultural, and multiculturalism in modern education. According to Ageyev (2003:439) culture is a most frequently used term by Vygotsky's work and it is more commonly used in the development of educational psychology. In society, each member has multiple cultures such as race, ethnicity, gender, age, language, religion, occupational and socioeconomic status, family background. These diverse behaviours, beliefs, perceptions influence members in terms of sociocultural approach. This gives rise to the so-called "multiculturalism". Multiculturalism as a part of sociocultural theory became the heart center of debates in educational psychology and social sciences by theorists, researchers and scholars. Ageyev (2003:440) in his chapter "*Vygotsky in the Mirror of Cultural Interpretations*" identifies that Vygotsky is a visionary of multiculturalism due to his cultural aspects of the development of education.

It is difficult to make a definition of multiculturalism in education system (Kymlicka, 2002). However, some authors pointed on cultural features of diverse groups while others carried on social factors, and transfer on economic resources. Woolfolk (2010:536) highlights that multiculturalism in education comes from liberal pluralist perspective in the 1970s, in the United States of America (USA), United Kingdom (UK), and Canada. The Canadian government pointed out that multiculturalism is fundamental to our belief that all citizens are equal. Also, it ensures that all citizens can keep their identities, take pride in their ancestry and have a sense of belonging (Race, 2011:3). These beliefs offer to Canadian a feeling of security and self-confidence, make them more comfortable to diverse cultures (CIC, 2009). In the USA, Banks and Banks (2007:474) have considered multiculturalism as a philosophical position and movement that assumes the gender, ethnic, racial, and cultural diversity of a pluralistic society. In this study, the researcher is not intended to examine multiculturalism and its evolution over time as a concept; rather, he proposes to make multiculturalism more visible, practical in

educational psychology issues through sociocultural context such as school, family, and society or community.

b. Multiculturalism in South African schools

Schools in South Africa are represented by many cultures. There is a mix of learners from different socio-economic, cultural, or religious backgrounds. For example, some learners grow up in small rural towns and a part of different cultural group from those in large urban centers. While all of these learners can share many common experiences and values, especially by different ethnic, regional, or language backgrounds, many of these aspects are different. This study suggests that sociocultural approach can be used to examine issues underlying the term of the new versions of multiculturalism in education systems. The potential of these visions have to transform education for all students and to reconstitute mainstream social and educational practices in the interests of all. According to Kalantzis and Cope (2002:269), cultural diversity is becoming increasingly pertinent for every member of society. For example, those most comfortably at home in the dominant culture, untroubled due to they imagine themselves to be the cultural majority (Kalantzis & Cope, 2002:269). This idea of multiculturalism in education is very important, because it provides an inclusive education access. It further helps to provide the comprehensive educational and social support services to their progressively diverse population. Generally, culture, language and values of the minority groups are taken on different sittings such as educational, professional, and social sittings. Most cases, the minority groups embraced these three components (culture, language, values) of the majority groups. The category of majority groups, like the other minority groups, each has its own cultural categories that it suited its own imagination of what is culturally, linguistically appropriate to its own dominance. However, Mafumo (2010:73) claims that this phenomenon promotes social injustice instead of social justice. Furthermore, multiculturalism promotes the illusion that the majority and the minority groups can swap places and learn how the other lives while leaving the structures of power intact (Mafumo, 2010:75). In order to approach the challenges that are faced during interaction in this context, however, Naidoo (1993) suggests the implementation of multiculturalism in education as a solution. Multiculturalism accepts the rightful existence of intercultural education, cultural differences, and cultural backgrounds as a source of social enrichment rather than as social problems.

2.2.1.4 Implications of Vygotsky's sociocultural theory and basics concepts to this study

From the above views, the sociocultural theory provides a whole for a number of opportunities in educational psychology and education perspectives that can influence the cognitive and psychosocial development of francophone adolescent learners. These concern the Zone of Proximal Development (ZPD), peer interactions, mediation, scaffolding, and multiculturalism. These characteristics are dependent on the analysis of francophone adolescent learners under tasks in classroom activities or schools. Based on the objectives and aims of this study, the implications of Vygotsky's works in peer interactions among francophone adolescent learners are relevant for many reasons in this study.

The first implication is related to peer interactions. This theory helps to reveal how we can perceive francophone adolescent learners when they interact with their peers in schools and how these interactions can influence their cognitive development. English as a second language of instruction for adolescent learners has been shown to influence peer interactions and cognitive development at schools (Lantolf, & Thone, 2000; Gass & Varonis, 1994; Long, 1981; Swain & Lapkin, 1998). In this study, francophone adolescent learners present and interpret through English language their historical and recent affairs, beliefs, attitudes and values of other individuals in schools. Related to Vygotsky's ideas, there is dynamism between natural, social and cultural development within children. Another implication is that peer interaction can help to explain the psychological activity of francophone adolescent learners in terms of their behaviour and performance while engage in sociocultural context in schools.

The second implication is related to Vygotsky's ZPD. This states the difference concerning independent learning of child achievements and achievements under assistance of skilled person or expert at the specific task. The researcher expects this social support with peers to help the francophone adolescent learners in schools to achieve higher performance they could do in an individual presentation and progress. With regards to ZPD in school, Vygotsky proposed that ZPD may explore in which way children can achieve with the assistance of others may be more indicative of their mental development than what they can do alone. The Vygotsky's ZPD proposal can inform how peer interactions among francophone adolescent learners in schools can be identified by abilities that are in the process of development and attempted to predict what these learners will do alone in their future. This allows the researcher to know francophone

adolescent learners where they are functioning, where these learners will be in the future and how best to assist them in mastering more advanced skills and knowledge in terms of peer interactions. In this view, skills and knowledge are relevant to peer interactions, and they are not yet emerged in francophone adolescent learner's ZPD. These will emerge only when francophone adolescent learners will be engaged to the interactions process with their peers and in supportive environment such as schools.

The third implication is related to the notion of scaffolding. It has been highlighted that in order to achieve instructions at learner's ZPD; the teacher must know what the learner's development level is and what skills and knowledge will be developed. After, the teacher must understand the developmental trajectories for these skills. Furthermore, the teacher needs to ensure that the learners will be eventually able to function independently at high level than to function with an adult support or assistance. In the scope of this study, it is important to emphasize that even if francophone adolescent learners have developed sufficient skills and knowledge to perform in terms of interactions with their peers under adult support, they can still have challenges to perform some tasks independently. Most of the cases, francophone adolescent learners are gradually processed by moving from using a great of assistance to slowly taking over until eventually perform without assistance.

The final implications are related to multiculturalism. The discussion of this concept has emphasized on the situations that are concerned in the development of the child and the role played by parents, teachers, and peers in the community. This community is considered as an environmental factor that determines the kinds of interaction happening between learners. In the scope of this study, the concept of multiculturalism allows the researcher to examine and critique the peer interactions among francophone adolescent learners in schools. As Garbarino (1982) emphasized that in pluralist society we have the right to evaluate, decide, and compare competing cultural ideologies in terms of what is in the best interests of human development. With regard to multiculturalism, sociocultural theory has largely applied in education and its implication can be summarized as follow:

Vygotsky's works are considered as reactions against the dominant product perspectives in education during the twentieth-first century. However, Race (2011) acknowledged that multiculturalism addressed the inequality in the school systems, supported the different social

constructions and took forward the notion of cultural diversity. It should be reflected in all of the institutionalized structures of educational institutions such as staff, norms and values, curriculum and students body. This resulted in school reforms designed to actualize educational equality for students from diverse racial, ethnic, cultural, social-class and linguistic groups. It also helped to promote democracy and social justice (Banks, 2011:13). The main goal of multiculturalism in education environment is to reform schools, colleges, and universities so that students from diverse groups will have equal opportunities to learn without any discrimination. For Mahalim and McCarthy (2000:9) as a set of epistemological and pedagogical practices, there is a need of paradigmatic shift in order to achieve its equal goals. From a pluralist perspective, this study aligns with Garbarino (1982) who challenges individuals need to be more tolerant and create in their practice and research as well as the dominant groups to share some of their power in making policy decisions.

Furthermore, pluralists recommend to respect the diversity of value, traditions of individual's heritage and try to not to impose the cultural view of others.

The understanding of the notion of multiculturalism in schools is important because it promotes the respect for individual differences, fosters diversity, and promotes the beneficial cultural evolution (Lerner, Lerner, & Lerner, 2006:383). Based on sociocultural theory, educational psychologists have as role to understand how human social and mental activities are organized within cultural contexts in schools, in order to provide an adequate learning through social interaction amongst francophone adolescent learners with sufficient level of supports.

2.2.2 South African policy for inclusive education

2.2.2.1 Introduction

In this study, Vygotsky's sociocultural theory does respond only to interaction with peers and social support, and it hardly gives enough arguments to address the inclusive issues for francophone adolescent learners in schools. Therefore, this study has recourse to an alternative theory of inclusive education. By using this theory, the researcher proposes the South African policy of White Paper 6 (WP6) (DoE, 2001) to clarify how the principle and policy of education for all learners can apply for francophone adolescent learners experiencing diverse challenges which emanate from psychosocial factors. Some factors are especially regarded to those who have low self-esteem or those who think they do not belong to the groups in the schools

community. The ideas of WP6 lead this study to promote inclusive development that is based on peer interaction of francophone adolescent learners in schools in the Western Cape. Also it leads the researcher to understand why francophone adolescent learners are missed out in inclusive schools in the Western Cape due the peer interactions issues.

Over fifteen years, this conception of inclusive education has an important influence on the schools in the democratic South African. This section approaches around historical background of WP6 in South Africa, the different viewpoints of inclusive education, the philosophy of WP6 policy as an inclusive education, difference between mainstreaming education and inclusive education.

2.2.2.2 Historical background of WP6 policy-Special Needs Education: Building an Inclusive Education and Training System in South Africa

During the twenty-first century, many scholars and theorists criticized the mainstream education with regards to the promotion of inclusive education for all (Farrell, 2000; Lindsay, 2003; Stofile, 2008, Weeks & Erradu, 2013). In the South African context, Engelbrecht (2006:254) points that “the central characters which differentiates South Africa from other countries in terms of inclusive education, is the extent to which radically entrenched attitudes and the institutionalization of discriminatory practices. These are because the development of education in South Africa was victimized with inequalities due the historical and colonial heritage (Lam, Ardington & Leibbrandt, 2011). These inequalities are specially based in the content of curriculum and structure of education. During apartheid era, the social and political frames were extremely designed with a lack of provision for the large majority of children. These inequalities were differently treated between three ethnic groups such as White, Coloured and African. Lam, *et al.* (2011) points that White had advantages in most areas; Africans received “Bantu Education” and had the least access to services and the most restrictions with a large gap in school expenses, and Coloured occupied an intermediate status with higher expenditures on schooling than African. Education was not free for Africans, Indians and coloureds (Clark & Warger, 2004).

After, the introduction of the new democratic government in 1994 declared that segregation became unconstitutional (Giliomee, 2009). To eliminate these, however, in 1996, the South African Ministry of education took into account two main bodies including National

Commission on Special Needs in Education and Training (NCSNET) and National Committee on Education Support Services (NCESS) in order to find out what the characteristics of special needs and support services in education structure are. Due to the NCSNET and NCESS could not effectively respond to the existence of a broad range of learning needs. However, in 2001, the South African government acknowledged the failure of the education system to answer to the needs of a substantial number of children. It is clear that the government adopted a new policy on WP6, inclusive education in order to build the country on equality and respect for human right principles with a particular matter on the appreciation of diversity (Prinsloo, 2001:344). These assigned that Education Department may improve the quality of education by focusing on implementation of inclusive education, and providing the necessary support for all learners (DoE, 2001). This WP6 has basically inspired from the international commitment that the final Salamanca statement pointed out on the development of inclusive education (UNESCO, 1994). The Department of Education proposed that how the policy will systematically move away from using segregation according to categories of disabilities as an organizing principle for institutions; directed how the policy will maximize the participation of all learners in inclusive education system. It also stated how the achievement of equality will commit in educational environment. All these issues review in the curriculum called “White Paper 6 policy-Special Needs Education: Building an Inclusive Education and Training System”.

2.2.2.3 Objective of the South African policy of White Paper 6

According to the South African Department of Education (DoE, 2001), the central objective of WP6 is to extend the policy foundations, framework and programmes of existing policy for all bands of education and training so that our education and training system will recognize and accommodate the diverse range of learning needs. The advance of inclusive and training in education system would provide educational opportunities in particular for those learners who experience or have experienced barriers to learning and development, or who have dropped out of learning because of inability to the education and training system to accommodate their learning needs (DoE, 2001:4). The ministry of education recognized that the growth of inclusive and training system would be progressively taken over long term, short term and medium term actions. These allows to the wide system to provide further clarity on the capital, material and human resource development, consequently the funding requirements, of building an inclusive

education and training system in South Africa (DoE, 2001:4). To develop investment plans in order to improve the quality of education and also, it is to create special needs education as a non-racial and integrated all components of South African education systems (DoE, 2001:4).

2.2.2.4 Defining inclusive education with different discourses

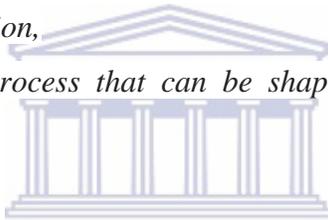
Over twenty years, many researchers, scholars and theorists have debated around the explanation of these concepts of inclusive education. What does inclusive education exactly mean in this study? Who are the “subjects” of inclusive education? What factors make inclusive education seem to be accepted all over in the world as well as in South Africa? The discussion of these questions is still an open subject of debates and it continues to explore in its deeper implications and values among scholars and researchers. In fact, Miles and Singal (2010) debated on education for all and inclusive education as conflict, contradiction or opportunity. As Engelbrecht (2006) stated that there is no one approach on inclusive education within a particular country or school. The meaning of inclusive education is a complex and problematic concept, and it depends on multi-dimensional perspectives (Barton, 2003; Mitchell, 2005). There is no universally recognized definition of educational inclusive (Mitchell, 2005). This concept can be linked to what is normal and what is abnormal to the group (Kearney & Kane, 2006). It is the inclusion of marginalized minority’s learners (Sayed & Soudien, 2003). For Zelaieta (2004:37) inclusive education is regarded to the principles that consist of the increasing a school’s capacity to respond to pupil diversity and promote greater participation for all pupils. Booth, Ainscow, Black-Hawkins, Vaughan and Shaw (2002) point out that inclusive education should be determined by the cultural context of the state and should be principally dependent on the political values and processes for its inaction. Ainscow, Booth, Dyson, Farrell, Frankham, Gallannaugh, Howes, and Smith’s (2006) analysis proposed five ways of thinking on inclusive as follows:

1. *Inclusive as concerned with disability and special educational needs,*
2. *Inclusive as response to disciplinary exclusions,*
3. *Inclusive as about all groups vulnerable to exclusion,*
4. *Inclusive as the promotion of a school for all,*
5. *Inclusive as education for all.*

The Dakar Framework for Action (2000) reported that inclusive consists of the protection against discrimination based on culture, language, social group, gender or individual differences. These features are absolute human right and they must be respected and to ensure that all children have access to education (Dyson, 1999). Engelbrecht (2006) pointed out that the result of inclusive education is not a simply option to promote education in South African context, but it is a strategy mostly contribute to a democratic and social justice.

Dyson, Howes, and Roberts's (2002) reviews carried out three viewpoints of inclusive education as follows.

1. *Inclusive education responding simultaneously to students who all differ from each other in which pose particular challenges to the school,*
2. *It is not just about maintaining the presence of students in school, also it about maximizing their participation,*
3. *Inclusive education is a process that can be shaped by school level action (Dyson, Howes, & Roberts, 2002).*

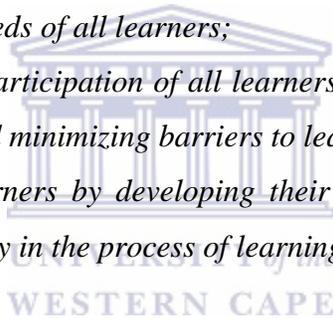


With regards to the definition of inclusive education, Ainscow and Miles (2009) recommend that it is relevant to consider the local circumstances, cultures and history of inclusive education. The success of inclusive education involves the participation of all local communities such as families, political, religious, leaders and media, district office. Then four factors were revealed by Ainscow and Miles (2009) as follows:

1. *Inclusive is a process, which involves constantly searching for better ways of responding to diversity;*
2. *Inclusive is concerned with the identification and removal of barriers,*
3. *Inclusive is about the presence, participation and achievement for all students. Presence is refers to where a child is educated. Participation is seen as a measure of the quality of experience of all learners. Then achievement is concerned on learning outcomes across the curriculum;*
4. *Inclusive involves a particular emphasis on those groups of learners who may be at risk of marginalisation, exclusion or underachievement (Ainscow, 2005:119).*

According to the South African Department of Education (2001:16), inclusive education is:

1. *Acknowledge that all children and youth can learn and that all children and youth need support;*
2. *Accept and respect the fact that all learners are different in some way and have different learning needs which are equally valued and an ordinary part of our human experience;*
3. *Enable education structures, systems and learning methodologies to meet the needs of all learners;*
4. *Acknowledge and respect differences in learners, whether due to age, gender, ethnicity, language, class, disability, or HIV status;*
5. *Be broader than formal schooling and acknowledge that learning also occurs in the home and community, and within formal and informal modes and structures;*
6. *Be about changing attitudes, behavior, teaching methodologies , curricula and the environment to meet the needs of all learners;*
7. *Be about maximizing the participation of all learners in the culture and the curricula of educational institutions and minimizing barriers to learning;*
8. *Be about empowering learners by developing their individual strengths and enabling them to participate critically in the process of learning* (DoE, 2001:16).



In light of the preceding conceptualizations of inclusive education, this study proposes to understand this concept of inclusive education as a system of action that is response to the diverse needs of learners. To make sense of the conceptual definition which is related to an educational system that is inclusive to the need of diversity, it is important that the conceptual definition to be operationalized. This definition articulated the need for support services will be included teachers, parent, peers and community, dedicated posts of personal in the department of education.

2.2.2.5 Philosophy of White Paper 6 policy as an inclusive education

The White Paper 6, an inclusive education philosophy becomes a central concept to the educational system in South Africa. This study mentions the aspect of how best to respond to francophone adolescent learners who experience difficulties of peer interactions in inclusive education. As a philosophy, Engelbrecht (2006) notes that inclusive education embraces the

democratic values of equality and human rights and the recognition of diversity. The UNESCO's (2005:12) viewpoints advocates that the rationale and right in inclusive education is a dynamic approach of responding positively to pupil diversity and of seeing individual differences not as problems, but as opportunities for enriching learning. With regard to the relevance of inclusive education, this study shows that education system evolves over time in specific contexts as a philosophy. Inclusive education needs to be defined as inclusive principles with practical views in order to address inclusion in education in the world. These principles should be articulated in diverse international or national statements then can be interpreted and reformed to the individual country's context. In addition, Barton and Armstrong (2007) pointed that inclusive education in country is not a static phenomenon, it is dynamic. However, this study needs to consider the right discourses that have strongly pronounced about the wider education reforms at both international and national levels.

2.2.2.5.1 International discourses on inclusive education

Internationally, many forums and conferences were convened to promote the rights discourses. At the 1948 Universal Declaration of Human Right, much emphasis was placed inclusive education as human right to education. The declaration was pronounced in the following form:

“Everyone has the right to education...Education shall be directed to the full development of human personality and to the strengthening of respect for human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among all nations, racial or religious groups, and shall further the activities of the united nations for the maintenance of peace” (Universal Declaration of Human Right, Art.26)

At the 1990 World Conference on Education for All, Jomtien, UN agencies, and international and national NGOs addressed the objective of education for all as follows:

“All children and young people of the world, with their individual strengths and weaknesses, with their hopes and expectations, have the right to education. It is not our education systems that have a right to certain types of children. Therefore, it is the school system of a country that must be adjusted to meet the needs of all children”. (UNESCO, 1990)

The Salamanca statement reviews inclusive education with an aspect of building the associations among individuals, groups, society and nations. Therefore, it stipulated that regular schools inclusive orientation are the most effective means of combating discrimination, creating communities, building an inclusive society and achieving education for all (UNESCO, 1994: Art.2). The new insight was proclaiming by UNESCO in five principles from the right issue;

1. *Every child has a fundamental right to education , and must be given the opportunity to achieve and maintain an acceptable level of learning*
2. *Every child has unique characteristics, interests, abilities, and learning needs;*
3. *Educational systems should be designed and educational programmes implemented , to take into account the wide diversity of these characteristics and needs;*
4. *Those with special educational needs must have access to regular schools, which should accommodate them within a child centered pedagogy capable of meeting these needs;*
5. *Regular schools with this inclusive orientation are the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society, and achieving education for all, moreover, they provide an effective education to the majority of children, and improve the efficiency and ultimately, the cost-effectiveness of the entire educational system (UNESCO, 1994:2).*

Further, resolution adopted by United Nations general assembly in 1994

On the other views, the question of inclusive education is still an opensubject of debates and it continues to explore in its deeper implication and values among scholars and researchers. In fact, Miles and Singal (2010) debated on education for all and inclusive as conflict, contradiction or opportunity. As Engelbrecht (2006) stated that there is no one approach on inclusive education within a particular country or school. The meaning of inclusive education is a complex and problematic concept, and depends in multi-dimensional perspectives (Barton, 2003; Mitchell, 2005). There is no universally recognized definition of educational inclusive (Mitchell, 2005). This concept can be linked to what is normal and what is abnormal to the group (Kearney & Kane, 2006). It is the inclusion of marginalized minority's learners (Sayed & Soudien, 2003). For Zelaieta (2004:37) inclusive education is regarded to the principles that are consisted of the

increasing a school's capacity to respond to pupil diversity and promote greater participation for all pupils. Booth, Ainscow, Black-Hawkins, Vaughan and Shaw (2002) notified that inclusive education should be determined by the cultural context of the state and should be principally depends on the political values and processes for its inaction. AinscowBooth, Dyson, Farrell, Frankham, Gallannaugh, Howes, and Smith's (2006) analysis proposed five ways of thinking on inclusive as follows:

6. *Inclusive as concerned with disability and special educational needs,*
7. *Inclusive as response to disciplinary exclusions,*
8. *Inclusive as about all groups vulnerable to exclusion,*
9. *Inclusive as the promotion of a school for all,*
10. *Inclusive as education for all.*

2.2.2.5.2 National guidelines on inclusive education

In South Africa, there were national guidelines that were respectively worked by providing the overall framework for the development of policy for inclusive education. These initiatives are included: White Paper on Education and Training in a Democratic South Africa (DoE, 1995), the South African Schools Act (DoE, 1996), the White Paper on an Integrated National Disability Strategy (DoE, 1997), the National Commission on Special Educational Needs and Training and the Nation Committee on Education Support Services (DoE, 1997b), and WP6: Building an Inclusive Education and Training System (DoE, 2001).

At a national level, major changes were taking place as a result of the new democracy in South Africa.

According to the South African Department of Education (2001:16), inclusive education is:

9. *Acknowledge that all children and youth can learn and that all children and youth need support;*
10. *Accept and respect the fact that all learners are different in some way and have different learning needs which are equally valued and an ordinary part of our human experience;*
11. *Enable education structures, systems and learning methodologies to meet the needs of all learners;*
12. *Acknowledge and respect differences in learners, whether due to age, gender, ethnicity, language, class, disability, or HIV status;*

13. *Be broader than formal schooling and acknowledge that learning also occurs in the home and community, and within formal and informal modes and structures;*
14. *Be about changing attitudes, behavior, teaching methodologies , curricula and the environment to meet the needs of all learners;*
15. *Be about maximizing the participation of all learners in the culture and the curricula of educational institutions and minimizing barriers to learning;*
16. *Be about empowering learners by developing their individual strengths and enabling them to participate critically in the process of learning (DoE, 2001:16).*

2.2.2.6 Relevance of inclusive education in South African schools

With regards to the South African context, Department of Education recognized that there is a broad range of learning needs that exist among the learners population at any point. Inclusive education needs to be arisen in South Africa for many reasons. This helps to understand negative attitudes and stereotyping of differences, an inflexible curriculum, inappropriate languages or language of learning and teaching, inappropriate and unsafe built environments, inappropriate and inadequate support services, inadequate policies and legislation, the non-regulation and non-involvement of parents, inadequately and inappropriate trained education managers and educators (DoE, 2001:17).

The one is the value our diversity in the communities. These diversities generally started at school, where learners learn to live alongside with their peers. They learnt, cooperated, played and grown together. School as a place for interaction and friendship development, learners learnt social skills. However, for those are not belonging to the same group or community they will learn from each other in the inclusive settings. For learning academic skills, all learners are expected to learn, read, write, and to math with their peers in the inclusive schools. In additional, Inclusive education allowed to learners to develop a positive understanding of themselves and of their peers. However, at school, each learner has to appreciate diversity because, by learning from others they can reflect similarities or differences of people in the real world. The National Education Policy Investigation (NEPI) was guided by these principles. These principles guided the policy development in South Africa as intended to the protection of human rights, values and social justice; the unitary system; non-discrimination, non-racism and non-sexism; democracy; redress of educational inequalities; cost effectiveness.

2.3 Summary to the chapter

The current chapter has reviewed relevant literature of the study that comprised conceptual and theoretical frameworks. The first had described two key concepts that are psychosocial factors, which include the psychological factors, social support, and cultural differences; and peer interaction in the schools with a focus on its conceptualisation, characteristics, and importance in schools. This chapter has discussed the positive and negative factors influencing peer interaction among francophone adolescent learners in schools, and debate on the previous research across Africa and world. The second section, theoretical framework has described a structure to understand the relationship informed by Vygotsky's sociocultural theory and the policy of White Paper 6 to this study.



CHAPTER 3

PILOT STUDY

3 Introduction

The previous chapter has discussed the literature review which included the conceptual framework and the theoretical framework. The conceptual framework concerned previous studies on psychosocial factors affecting adolescents at schools, peer interaction among adolescents at schools and its importance in schools. Cooperative learning, the sense of belonging and classroom climate were classified as positive factors to peer interaction whereas peer bullying and peer rejection as negative factors to peer interactions at schools.

Before the main study, it was essential to conduct a pilot study in order to allow the researcher to be familiar with the instrument and be prepared for the resolution of any potential difficulties that he would encounter during the main study data collection process. This pilot study was the first phase of the practical application of Psychosocial Factors Scale (PFS), Peer Interaction Scale (PIS), and interviews schedule for francophone adolescent learners in the high schools in the Western Cape Province, South Africa. As a chapter, it provides the definition and purpose of a pilot study along with its importance and expectation to this research. It also discusses the objectives, research questions, the research setting and the practical application of a pilot study. Finally, the present chapter briefly reports the findings of the pilot study in order to confirm the validity and feasibility of the instruments developed in the current study.

3.1 Definition of pilot study

The term pilot study also known as feasibility study refers to mini versions of a full scale study or trial run, done in preparation for the major study. It serves to assess the strengths and the weaknesses of a proposed project and presents directions that will improve a project and help achieve desired results. A feasibility study consists of the comprehensive analysis and evaluation of a project. It assists the researcher to determine whether a particular project is technically feasible within the estimated cost and whether it will be profitable to implement such a project (Ries, 2012:99). It specifically uses the pre-testing of a particular research instrument including a

questionnaire schedule (Van Teijlingen & Hundley, 2001; Polit, Beck, & Hungler, 2001). In this study, the pilot study pretests the feasibility of the two research instruments which are the questionnaire (Psychosocial Factors Scale and Peer Interaction Scale) and interviews schedule in order to ensure their validity and reliability in the high schools district in the Western Cape Province.

According to Lancaster, Dodd, and Williamson (2004), a pilot study plays an important role in research but researchers can misuse, mistreat, and misrepresent it. However, in the present study, a pilot study was conducted for some invaluable reasons that are provided in the next section.

3.2 Importance for a pilot study

A pilot study is of paramount importance and there is a wide range of reasons for implementing a pilot study in a research project (Secomb & Smith, 2011; Arian, Campbell, Cooper & Lancaster, 2010; Zailinawati, Schattner & Mazza, 2006). Van Teijlingen and Hundley (2001) provide many reasons why researchers should undertake pilot studies before conducting main studies. One of these reasons is to give advance warning about where the main research could fail, where research protocols may not be followed, or where proposed methods or instruments are inappropriate or too complicated (Van Teijlingen & Hundley, 2001; Peat, Mellis, Williams & Xuan, 2002). This is to suggest that the purpose of a pilot study is to test the feasibility of the research that is intended to ultimately be applied in a larger scale study (Herzberg, 1959; Leon, Davis & Kraemer, 2011). Thus it would be a waste of time and energy for a researcher to conduct research before pretesting one's instruments. De Vaus (1993) advises researchers to pilot their projects rather than taking a risk.

A pilot study tests randomization procedures, inclusion and exclusion criteria, and provides data for sample size calculations. Furthermore, it identifies barriers to the recruitment and test of the content validity of the instrument on the target population. In this respect, a pilot study validates the appropriateness of the primary outcome measures, and eventually makes clear the complementary links between the collected quantitative and qualitative data so as to increase the in-depth analysis in the final research report. In this study, the researcher believes that the reasons for conducting a pilot study should be categorized into different broad groups including process, resources, management and scientific reasons as suggested by Thabane, *et al.* (2010:2-3).

The process reason of a pilot study is to assess the feasibility of the steps that need to be conducted in the main study. These steps include understating study questionnaires, determining recruitment rates, refusal rates, failure/success rates, and retention rates (Thabane, *et al.*, 2010), to cite only few. The resource reason of a pilot study concerns the assessment of time- and budget-related issues that can happen during the main study. The resource factor helps to collect some pilot data on issues such as the length of time to mail or fill out all the survey forms. The management reason deals with the consideration of potential human and data optimization problems such as personnel and data management matters, the availability of the needed data, the willingness of the participants to be randomized, time needed collect and analyze data. Finally, the scientific reason covers the assessment of treatment safety, the determination of other levels and response, and an estimation of treatment effect and its variance, and the challenges of personnel study (Thabane, *et al.*, 2010). In the next section, the research questions which guided the present pilot research are provided.

3.3 Research questions

This pilot study revolved around the following three research questions:

1. What is the feasibility of recruitment procedures of the participants to understand psychosocial factors that affect peer interaction among francophone adolescent learners in high schools in the Western Cape?
2. What are the psychometric properties that can measure psychosocial factors scale (psychological factors subscale, social support subscale, cultural differences subscale) among francophone adolescent learners in high schools in the Western Cape?
3. What are the psychometric properties that can measure peer interaction scale among francophone adolescent learners in high schools in the Western Cape?

3.4 Objectives of a pilot study

Whereas Section 3.4 provided the research questions that guided the present pilot study, this section deals with the objectives deriving from the above-mentioned questions. The aim of a pilot study is generally connected to the goal of the main study and the following are the objectives of this pilot study:

1. To establish the feasibility of recruitment procedures of the participants to understand psychosocial factors that affect the peer interaction among francophone adolescent learners in high schools in the Western Cape.
2. To assess the psychometric properties of psychosocial factors scale among francophone adolescent learners in high schools in the Western Cape.
3. To assess the psychometric properties of peer interaction scale among francophone adolescent learners in the high schools in the Western Cape.

3.5 Research design

This study used a quantitative research approach by using exploratory and descriptive designs even though descriptive research is generally put at the bottom of the scale of quantitative research design hierarchy. Whereas a quantitative exploratory research helps find what is there (Allison, Hilton, O'Sullivan, Owen, Hilton & Rothwell, 2016), a quantitative descriptive design helps in describing what has been found (Sandelowski, 2000), that is, what is or what might be, but not what ought to be (Allison, *et al.*, 2016). In quantitative descriptive studies, researchers pre-select the variables they intend to study as is the case in the current study and later interpret these variables drawing conclusions from the findings of statistical tests based on a number of assumptions (*idem*).

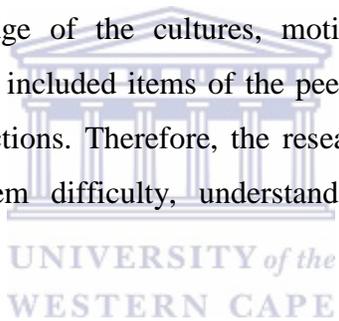
3.6 Expectation of researcher in pilot study

Regarding the research method, the researcher proposes, through piloting, to identify an appropriate method to investigate the psychosocial factors that affect interaction with peers among francophone adolescent learners in high schools in the Western Cape. In relation to the main concern of this pilot study, the researcher intends to develop a novel questionnaire that can be piloted with a small sample of participants.

Concerning the measurement, two questionnaires were developed; including the psychosocial factors scale and the peer interaction scale. The first covered four main components of the research construct; including psychological factors, social support, cultural differences, while the second dealt with only one component, which was the level of interaction with peers. The development of these questionnaires was followed by a systematic survey which involved 200 consenting participants who volunteered to participate in this study. The selected participants

were non-natives of South Africa. They rather originated from francophone or French-speaking countries and had French as their home language. They were aged from 14 to 20 years old and were enrolled in selected high schools in the central district of Western Cape.

The questionnaire was administered during three weeks before the researcher implemented the methodology and developed novel instruments. This is to suggest that the findings of this pilot study were expected to guide the researcher in the design and implementation of the larger scale efficacy questionnaire in the current study. In order to achieve the validity and reliability of the research instruments, the final questionnaire to be submitted in the large scale was expected to include only items that actually measured the research construct of psychological factors, including emotional regulation, aggressiveness, empathy, and sympathy. The social support included questions on affective (emotional) support, informational support and instrumental support (from teachers, parents and peers). Furthermore, the cultural differences section comprised questions on knowledge of the cultures, motivational culture, and behavioural cultures. The questionnaire finally included items of the peer interaction that measure negative and positive levels of peer interactions. Therefore, the researcher was expected to remove all irrelevant items in terms of item difficulty, understandability, inadequacy, low internal consistency, and response rates.



3.7 Research setting and participants

The study was conducted in high schools selected from the central district in the Western Cape Province in South Africa. This province was selected because of the easy accessibility to the participants in the schools. Furthermore, this research setting was considered as a familiar background to the researcher, who had previously good relationship with teachers and school authorities while conducting research for the achievement of his Master's programme.

The Western Cape Education Department (WCED) is subdivided into eight (8) districts namely Metro Central, Metro East, Metro North, Metro South, Cape Winelands, Eden and Central Karoo, Overberg, and West Coast. However, only a high school in the Metro North District, where there is a concentration of foreigners, notably francophone adolescent learner populations was selected. An overview of the socio-economic, demographic, and educational characteristics of the research setting can be found in Chapter 1.

The total average number of learners in high schools in the Western Cape is 39993 learners (WCED, 2014). In this pilot study phase, two hundred (204) participants were recruited from high schools located in the municipalities such as Salt River and Maitland in the central District. The selection procedure of participants is based on convenience purposive sampling. The next section will inform this study as followed.

3.8 Selection of participants in pilot study

Based on the objectives of this pilot study, this section is concerned with the recruitment, informed consent of participants, and criteria for selection of participants.

3.8.1 Procedure of participants' recruitment

The researcher respectively contacted high schools in the district through principals to whom he explained the objectives and the different research procedures. The recruitment process of schools undertook a convenience and purposive sampling random in this pre-admission process. This non-probability sampling is an advantageous method in a pilot study due to the availability and easier access to the high schools and participants in the Western Cape. Assisted by schools' secretaries, the researcher undertook the recruitment's strategy of participants by survey to find the total exact number of foreign learners in three high schools in the Western Cape between July 2015 and August 2015. The researcher met all foreign learners in their respective high schools and he briefly presented them the purpose of his study. The researcher was then asked some questions regarding the data collection process and he answered these questions satisfactorily. Then the researcher provided the participants with a general pre-determined letter of consent which was part of the pre-admission process. At schools, the participants were identified and asked for voluntary agreement to participate to the enquiry. The recruitment took three weeks and the sample size consisted of 170 participants.

3.8.2 Procedure for data collection and informed consents of participants

Prior to data collection, the procedure for data collection required the researcher to obtain an ethical clearance from the University of the Western Cape (*see Appendix 1*), and get permission from the Western Cape Education Department (WCED) through the Director of Research Services for access to the selected schools (*see Appendix 2*). In addition, approval was obtained

from the principal of the selected schools in the Western Cape for access. The researcher obtained individual informed consents from volunteers before the implementation of questionnaires (*see Appendix 4*). As this pilot study dealt with adolescents, the researcher sent parental consent forms for approval (*see Appendix 5*).

3.8.3 Criteria for selection of participants

In the current research, the pilot study followed the design step that is the research strategies as noted in Chapter 1. The participants were selected according to the criteria described in Chapter 6. Criteria such as age, gender, current school level, country originate, home language, ethnicity, residential area, and duration of being in South Africa were presented as main criteria for selection of participants:

3.8.4 Pilot test population and sample characteristics

Radhakrishna (2007) recommends pilot testing that a new instrument must determine who will be the audience, the background and the process used to select the participants. In this study, the researcher tried the pilot testing on all francophone adolescent learners in three high schools in the Western Cape. This method allowed the researcher to find out whether the instrument would work in the real world or not.

This pilot study was conducted with a survey design in the selected high schools. The researcher used a systematic survey and selected 200 foreign learners from Grade 6 to Grade 12 at three high schools respectively located in Salt-River and Maitland in the central District in the Western Cape. The sampling strategy in this study was selected by taking into account convenience and easy accessibility to the participants. Twenty-six participants were from other countries including Zambia (1), Ethiopia (1), Botswana (2), Nigeria (3), Uganda (4) Rwanda (6), and Zimbabwe (10). The minimum selection requirements were having an African French-speaking background and being a high- school learner aged between 14 and 20 years old. The researcher considered only participants who met the criteria of selection. A total number of 174 francophone adolescent learners were selected as participants in this pilot study. Of the 174 selected learners, four (4) were unwilling to participate in the study. The sample size of the participants from the three selected high schools was thus constituted of 170 (N=170). The chosen sample population reflected true item variance. As Hogarty, Hines, Kromerey, Ferron, and Mumford (2005:203)

argue, the minimum sample size can vary from 100 to 250 to ensure that pilot study reflect true item variance, and not sampling error. Furthermore, when communalities are high ($> .60$) and each factor is defined by several items, the sample can actually be relatively small (Williams, Brown, & Onsman, 2012).

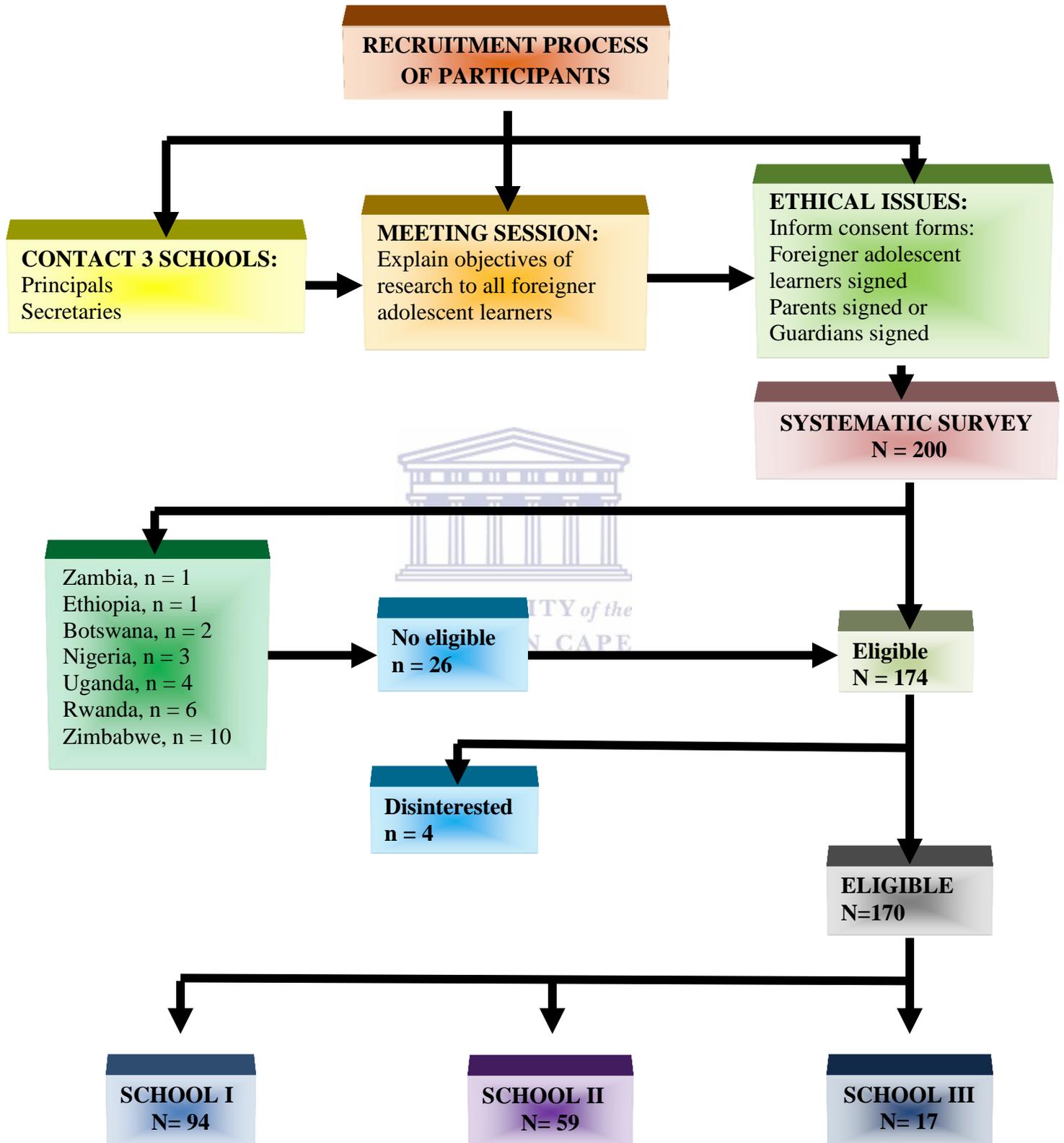
3.8.5 Procedure

The selection of the participants from the three chosen schools was done following a number of steps. The participants were first informed about the aim of the study. The researcher briefed them in their respective classrooms after the school time. As there was a need for consent forms for parents or guardians, the requested forms were sent and given back signed. Individual informed consents were signed by participants, who were then informed about voluntary participation into the pilot study and about anonymity. The researcher also assured the participants about the possibility to withdraw before, during, and after the administration of the questionnaire. The instructions were essentially read and explained to ensure that all participants had understood the process before completing the instruments. Based on ethical issues, pseudo-names identified the respective high schools including I, II, and III.

The participants consisted of 94 learners from High School I, 59 learners High School II, and 17 from High school III. These participants were requested to complete the psychosocial factors questionnaire and demographic information regarding sex, age, school level, residential area, guardian, and home language. The questionnaire was answered in classrooms because the research took place during winter.

The researcher administered eighty eight items using Likert-type scales ($5 = totally agree$ to $1 = totally disagree$) of psychosocial factors for FAL in high schools in the Western Cape and used a systematic survey form. The form consisting of psychological factors, social support, and cultural differences was completed by a total of 170 participants. Regarding psychosocial factors, the emotional regulation, the aggressiveness, the sympathy, and empathy were extracted whereas three factors which are teacher, parents, and peers) were extracted from social support. Social support included affective support, informational support, and instrumental support.

Figure 3.1: Participant's recruitment process.



3.9 Developing and testing instruments

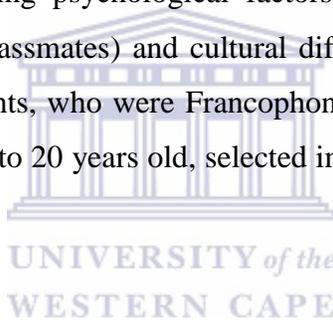
The following section consists of developing and testing instruments.

3.9.1 Instrument development

The development of instruments in this pilot study consisted of the design of questionnaire and the treatment of questions as follows.

3.9.1.1 Questionnaire design

Designing a questionnaire and conducting a quality survey for adolescents required a careful decision process (Willis, 2004:414-415). In the present pilot study, three instruments were used for data collection (*see in Appendices 6, 7, 8 & 9*). These instruments include biographical forms, psychosocial factors scale involving psychological factors subscale, social support subscale (from teachers, parent, peers or classmates) and cultural difference subscale, and level of peer interaction scales among participants, who were Francophone Adolescent Learners (FAL) from Grades 6 to Grades 12, aged of 14 to 20 years old, selected in high schools in the central district, in the Western Cape Province.



3.9.1.1.1 Biographical form

a. Aim of the biographical form

The biographical form aimed at eliciting information related to the participants' biographical and demographic data. The form was constructed in such a way to reflect the relationships between history knowledge and the participants' life experiences.

b. Biographical form content

Before developing the biographical form, the researcher found it reasonable to address the following questions: What are the aims of biography? Who is to be surveyed as participant? How can a participant produce identity in his French home language? What nature of information does the researcher need to get from him/her? Does the obtained information sufficiently reflect the nature of his/her life history? The above-mentioned questions served as a design to planning the content of the biographical form.

As biographical form was developed, the researcher maintained the following characteristics: the participant's details (name, surname, birth date, information regarding parents, date of assessment), criteria for selecting participants (age, sex, grade, current school level, country of origin, guardian, parent's occupation, family size (number of occupants at home), number of close friends, fluent language, number of being speaking English in south Africa).

The development of the biographical form was followed by its administration in a printed form. A survey was administered to participants for completion of the biographical form. The information biographical form helped the researcher in establishing the background and life experience information of the sample population and in extracting the participants' language profile which is a relevant factor in this study. A sample of the biographical form is provided in Appendix 5.

3.9.1.1.2 Psychosocial Factors Scale

a. Aim of Psychosocial Factors Scale

The aim of this questionnaire was to elicit information from participants regarding their views of psychosocial factors. The participants were required to answer some specific items that address the psychological factors, social supports, cultural differences variables ranged on the Likert scale from very much agree to very much disagree.

b. Content of Psychosocial Factors Scale

The researcher constructed the questionnaire in English, but he translated it into French in order to enable the participants to answer questions with ease. Data were gathered by administering a questionnaire consisting of a total of 89 Items to participants. The instrument was divided in three questionnaires including psychological factors, social support, cultural differences and reactions to increase peer interaction. The three questionnaires are subsequently provided below:

Questionnaire I: Psychological Factors Subscale

The psychological factors questionnaire consisted of 24 items with a 5 Likert scale (5= *totally agree*, 4= *agree*, 3= *Neutral*, 2= *Disagree*, 1= *Totally disagree*) that assessed 4 variables: emotional regulation, aggressiveness, empathy, and sympathy (*see Appendix 7*). These variables

were assessed in normal situation and participants were requested to give their views of the suggested statements that can influence peer interaction and behaviours in socially-accepted ways.

Questionnaire II: Social Support (from teachers, parents, and peers) Subscale

The social support questionnaire contained 45 items with 5 Likert scale (5=*Very much agree*, 4=*Agree*, 3=*Neutral*, 2=*Disagree*, 1=*Very much disagree*) (see Appendix 8).

- Social support from teachers

The aim of the questionnaire on social support from teachers was three-fold: to measure teachers' affective support to learners, address learners' informational support from teachers, *and* to address teachers' instrumental support to learners.

- Social support from parents

The questionnaire on the social support from parents aimed to measure three variables: the affective, informational and instrumental support learners get from their parents.

- Social support from peers

The questionnaire on the social support from peers aimed at measuring the affective, informational, and instrumental support learners get from their peers.

Questionnaire III: Cultural Differences Subscale

The cultural differences questionnaire contained 19 items with 5 Likert scale (5=*Very much agree*, 4=*Agree*, 3=*Neutral*, 2=*Disagree*, 1=*Very much disagree*) (see Appendix 9). The questionnaire aimed to measure the participants' knowledge of cultures, their motivational cultures, and their behavioural cultures. Further to this, a forty-item questionnaire covers several subscale topics related to reaction to increase peer interaction among the participants.

3.9.1.1.3 Level of Interaction with peers Scale

This questionnaire was administered to gather information on participants' level of interaction with peers, their negative levels, and their positive levels. The Likert scale consisted in five

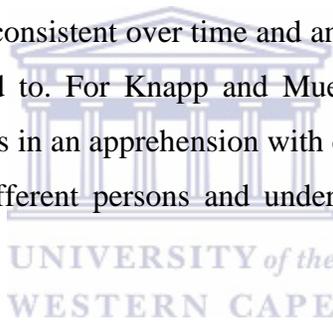
components: 5= very much agree, 4=agree, 3= neutral, 2= disagree, to 1= very much disagree (see Appendix 9).

3.10 Testing the questionnaire

In the present pilot study, the testing instrument concerned the evaluation of the reliability and validity of Psychosocial Factors scale and level of peer interaction scale for francophone adolescent learners in high schools district as followed.

3.10.1 Testing reliability

Reliability is determined by many factors (Shuhr & Shay, 2009). These are the function of properties of the underlying construct being measured, the test itself, the groups being assessed, the testing environment, and the purpose of assessment. According to Joppe (2000), reliability is the extent to which the results are consistent over time and an accurate representation of the total population under study is referred to. For Knapp and Mueller (2010:337), to understand the reliability of the instrument consists in an apprehension with consistency issues. This means that, the instrument administered to different persons and under different conditions measures the same variables.

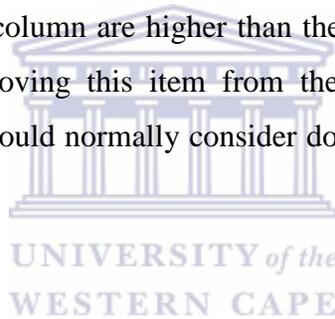


Once the data were screened and normalized, the researcher employed the Cronbach's coefficient alpha in order to test the initial reliability analysis of items. According to Kimberlin and Winterstein (2008), internal consistency is a procedure to estimate the reliability of questionnaire from a single administration of a single form. This depends on the individual's performance from items based on the standard deviation of questionnaire and the standard deviations of the items.

To ensure the adequacy performance of the instrument in the present pilot study, the researcher used the item total correlation to measure the contribution of each item to the entire questionnaire. According to Matkar (2012), reliability coefficients are theoretically ranged in value from 0 (no reliability) to 1.00 (perfect reliability). However, their approximate values vary from .50 to .90. The higher reliability explained that the questions or items tended to pull together whereas the lower reliability explained that the questions or items tended to be unrelated in terms of who answered them correctly. However, the acceptable reliability of instruments

developed for research purposes varies as low as .60 (Shuhr & Shay, 2009). In this study, the reliability analysis for the whole scale showed a very reliable (.80) Cronbach's alpha coefficient. As shown in Table 1, the alpha coefficient for all the subscales is ranged from .69 to .85. This indicates a good internal consistency of items.

The reliability analysis for psychosocial factors is computed. The values in the column labeled *corrected item-total correlation* are the correlations between each item and the total score from the questionnaire. In the reliable scale, all items should correlate with the total scores. If not, low values ($< .3$) indicate that the item is measuring something different from the scale as a whole (Pallant, 2013:92). In the column of Item-total correlations, if the scale's overall Cronbach's alpha is too low ($< .7$), there is a need to remove items with low item-total correlations. In the column of alpha, if an item is deleted, Pallant (2013:92) emphasizes that there is a risk to remove each item from the scale. The values with the final alpha value obtained should be compared whether any of the values in this column are higher than the final alpha value. This means that the researcher may consider removing this item from the scale in order to establish well-validated scales. The researcher should normally consider doing this only if the alpha value was low ($< .7$) (Pallant, 2013:92).



3.10.2 Testing validity

The measurement of sufficient validity is the most important characteristic of measurement scale (Junttila, 2010). An instrument is valid if it measures what it is supposed to measure and does so cleanly, without accidentally including other factors (Thanasegaran, 2009:37). Thus validity reflects the meaning of accuracy, that is, the authenticity of an instrument (Delpont & Roestenbourg, 2011:172). Considering an integrative view of the instrument, validity is not only based on conventional test score matters, but it also focuses on the significance of score implications and on their social use (Thanasegaran, 2009:37).

The validity of an instrument depends on the purpose of a study and mention that validity of an instrument depends of the study's purpose and on the research questions being addressed (Knapp & Mueller, 2010:337). Therefore, if a scale has high reliability, it may not necessarily be valid (Junttila, 2010:28). According to Kimberlin and Winterstein (2008), three aspects of the validity of instruments are designed in quantitative approach including content validity and construct

validity. Based to the purpose of this pilot study, the researcher concentrated on the three aspects of validity as followed.

a. Construct validity

According to Trochim (2006), construct validity consists of the way the researcher translates or transforms a concept, idea or behaviour or construct into functioning and operating reality. In this study, the construct of validity refers to the extent to which the instrument covers the complete content of the particular construct that is set out to measure. For example, if an instrument is developed to measure psychosocial factors, there should be items that cover all different aspects of psychosocial including social support, psychological factors, cultural differences, and reactions to increase interaction with peers.

b. Content validity

To ensure the content validity of an instrument, the researcher in this study presents a provisional version to experts in the field for their comment before finalizing the instrument. This is in order to provide input on the procedures that will be used to determine the quality of the collected data and to confirm that the instrument is beneficial to an easier data collection processing and manipulation for analysis (Glasow, 2005; Levy & Lemeshow, 1999).

In the present study, the construct and content validity assessed the validity of the instrument in order to evaluate the adequacy, appropriateness, inclusiveness, and relevancy of items to the participants.

Before finalizing the document, the researcher gave copies of the initial questionnaires to three experienced professionals in the field of psychology, academic experts, and statisticians to examine the interrelation of each item within the questionnaires. This process of pre-testing helped the researcher to modify the design of items and the sensitivity of the language, and to rephrase items and to estimate the time for the completion of the questionnaire before it was administered on the field. Further to this, due to the evaluation of the questionnaire by experts, the researcher was given a validation to apply to the participants.

c. Factors analysis

Another analysis used in this study to validate the psychosocial factors scale is the factor analysis which covered many functions. One of the major functions of factor analysis is to help the

researcher in determining how many variables underlie a set of items. Another function is to aid to define the substantive content or meaning of the factors (DeVellis, 2012:116-117). Factors analysis also allows identifying items that are performing better or worse in the questionnaire or scale.

In the current study, factor analysis was conducted to categorize the item-level analysis. Four criteria were employed to determine the appropriate number of components to retain including Eigen value, variance, scree plot and residuals. Criteria indicated that the retention of three components to be examined and all factor analytic procedures were reported by utilizing the SPSS 23 version.

The first step in this analysis consisted in assessing the suitability of the data in SPSS 23 version. Firstly, the analysis with statistics of the initial solution, which consisted of the items correlation with at least .3 suggesting reasonable factorability. Secondly, the analysis studied the inspection of the correlation matrix, which involves the calculation of the Kaiser-Meyer-Olkin measure (KMO) of sampling adequacy and Bartlett's test of sphericity as well as. The Kaiser's rule required to give the factors that are capable of explaining at least the equivalent of one variable's variance. Thirdly, the analysis determined the most eligible factors for interpretation. This study assumed that all items (in the psychosocial factors scale) in correlation matrix were not correlated. According to Stevens, (1992), if one of these methods failed to reject this hypothesis, there is no reason to deal with a principal component since the variables are already uncorrelated. The next step in the factor analysis is extraction method, which involves the principal components testing correlation matrix of variables in order to extract the common factors in the psychosocial factors scale. During this step, the study also assumed that all variables were uncorrelated. However, the researcher used the analyzed matrix of correlation of variables to test the correlation in-betweens. In line with this, Comrey and Lee (2013:13) argue that there is no precise solution regarding the number of factors to extract from the correlation matrix, but which has been achieved in the ordinary empirical factors analysis. Therefore, the reasonable task for factor analysis is to move from a large set of variables or items to a small set or factors. A priori criterion of number of factors to retain was specified in this study though. However, the researcher suggested the appropriate number of principal factors that were found from the psychosocial factors scale for FAL in schools in the Western Cape.

The researcher was recommended to identify specific pattern of loading each of the measured variables because this model offers strong evidence resulting from the validity of variables (Junttila, 2010). The researcher also used rotation as a method for factor analysis. Rotation is any of several methods in factor analysis by which the researcher attempts to relate the calculated factors to theoretical entities (Vogt, 1993 in Brown, 2009:20). However, this rotation differently depends on whether these factors are believed to be correlated (oblique) or uncorrelated (orthogonal). This allowed the researcher to use the confirmatory factor analysis (CFA). CFA is a powerful technique due to its explicit hypothesis testing for factor analytic problems (Gorsuch, 1983; DiStefano, Zhu, & Mindrila, 2009).

In the confirmatory analysis, the researcher wanted to minimize the difference between the estimated and observed matrices (Schreiber, Nora, Stage, Barlow, & King, 2006). The CFA was beneficial for this study because it allowed specifying the number of factors that was required in the data and measured variables related to the latent variable (Brown, 2006). The CFA also has a fundamental strength to construct validation that results from the estimates of convergent and discriminated validity of an instrument (Brown, 2015). This means to determine the adequate number of factors to examine. In this study, the researcher assumed that the factors are orthogonal rotations with varimax method and rotated solution. The use of the varimax for interpretation is important and allows determining the maximum iterations for convergence which is .25.

The rotated solution was useful in this study in that when the same number of factors was rotated, it showed a mathematical equivalence to each other (Comrey & Lee, 2013:13). Thus the orthogonal factor rotation can be used with the varimax method in order to facilitate an easier interpretation (Yong & Pearce, 2013). The use of orthogonal rotation is advisable as it helps to examine factors in order to minimize the number of variables that has high loadings on each factor and make small loadings even smaller (Yong & Pearce, 2013). Once the initial solution has rotated, then the study is ready to attempt interpretation (Williams, 1992). Finally, after the evaluation of factor analysis, the researcher identified the item which did and/or did not load on the entire factors on psychosocial factors scale for FAL in schools. The process was based on the determination of the number of factors retained in the scale. This study used AMOS Software (version 23) in order to conduct factor analysis and to structural equation modeling of the questionnaire.

3.11 Data collection

The data were collected in a systematic manner and the stages through which the collection of the data was done are provided below.

3.11.1 Survey of instrument development

After the researcher was authorized to conduct research, a pilot study was conducted and the choice of the population was made in the three selected high schools in the Western Cape by convenience and purposive sampling. The selection was made because it appeared to be difficult to identify the possible participants (Burns, Duffett, Kho, Meade, Adhikari, Sinuff, & Cook, 2008) and to administer the questionnaires to all potential participants, due to the size of the target population. As a result, this pilot study used a survey research design with a systematic random sampling in order to answer questions that were asked, solve problems that were observed, to evaluate needs and set goals, to determine whether or not specific objectives were met, to analyze trends across time and generally to describe what exists (Glasow, 2005:1) in what amount, and in what context (see Isaac & Micheal, 1997).

In this survey instrument development, the researcher used a self-questionnaire, requested the participants to fill it in order to ensure the consistency of its administration. Survey research has various advantages (Mathiyazhagan & Nandan, 2010). Survey research is capable of providing credible findings from the right sample of participants that can be applied to the broader target group or the population as a whole. The use of survey is relatively inexpensive and less time consuming during data collection. It consists in using methods, materials and the setting of study of the real life situation that is under investigation (Glasow, 2005:2). Survey research is also useful in terms of consistency. In the present pilot study, all participants were asked exactly the same questions. Furthermore, a survey generally provides estimates of the true population, not exact measurements (Glasow, 2005; Salant & Dillman, 1994). For instance, the survey was designed to explore the psychosocial factors that influence peer interaction of francophone adolescent learners in the high school in the Western Cape.

In August 2015, 204 foreigner learners at three high schools in the central district in the Western Cape Province in South Africa agreed to participate into the survey procedure. The selection of the institutes was set by convenience purposive sampling. The three schools were chosen because the researcher had easy access to them. The researcher visited each participating school

to administer a self-completion questionnaire and individual forms to the participants. The completion response rate of the survey was (200), that is, 98 % based on the number of questionnaire forms completed. This is the percentage of the total invitations sent to the participants. Only 1.9% response rate was non-respondent to the survey. In the next section, data collection strategies and instruments for data collection are described.

3.11.2 Data collection strategies

Since this study was interested in psychosocial factors scale and level of peer interaction in educational psychology, the researcher used a survey approach and developed four subscales or questionnaires to obtain data from high school Francophone Adolescent Learners (FAL) in the Western Cape. These questionnaires included items on psychological factors, social support, cultural differences, and level of peer interaction among AFL. This pilot study offered an opportunity to develop instruments and refine the research tools in such a way to reflect the relationships between psychosocial factors and peer interaction as investigated from the participants. However, the researcher hoped to review and legitimate the instruments from a small sample of FAL in order to label their feasibility. Therefore, the researcher addressed a number of questions before developing the process of the questionnaires. These questions were: what is the aim of the questionnaire? Who is to be surveyed? What information does the researcher need to get from the participants? What issues need to be explored? Is the provided information sufficient? Do these questions serve as a plan for designing the content of the questionnaire? Furthermore, the researcher made a choice of the questions to ask, set the types of response formats as well as the layout of the questionnaires.

Concerning the above-mentioned questions, the researcher only included relevant and valid questions. Relevant questions are those questions that can produce reliable information while valid questions are those that cover the various components of the research construct and that can be easily answered by participants. Therefore, the researcher eliminated items which related to supplementary activities only, irrelevant items, difficult items, and non-discriminatory items or items lacking internal consistency. Confusing or ambiguous items were also eliminated from this pilot study. In addition, the researcher changed the tense of the items from the third to the first person and slightly modified the language used on different items in order to facilitate learners' understanding of these items.

3.11.3 Psychometric properties of psychosocial factors scale

The psychometric characters of psychosocial factors instrument are assessed to support its reliability and validity. According to Thompson (2003), researchers and scholars in social sciences often fail to report reliability and validity in their instruments, and to grasp the interconnection between scale validity and effective research. However, Bajpai and Bajpai (2014:112) mention that the use of better instruments in research determines more accuracy in the results, which is a scientific quality of research. As far as the current pilot study is concerned, its analysis involved testing the reliability and validity of the questionnaire in order to determine the suitability of different factors that can influence peer interaction among francophone adolescent learners in selected high schools setting in the Western Cape. This means that the researcher eliminated weak items and tested the initial assessment of instrument reliability. To achieve these goals, the researcher used a statistical technique known as Statistical Package for the Social Science (SPSS) 23 Version.

3.11.4 Justification of inclusion's psychosocial factors scale

Based on the purpose of this study, the researcher was comfortable to use the Psychosocial Factors Scale for FAL in high school in South Africa. This was because it allowed to determine the psychometric properties of a prospective measure of psychosocial wellbeing among immigrant francophone adolescent learners in South African school district. These factors were appropriate instruments to assess psychological factors, social support from teachers, parents, and peers, and cultural differences construct or variables for the specifics participants in this pilot study.

3.11.5 Administering of Psychosocial Factors Scales for FAL in high schools

The psychosocial factors scale or questionnaire is self-administering. It can be administered in group or individually to the participants. This questionnaire consisted of 97 items. Twenty-four items assessed the emotional regulation, the aggressiveness, the empathy and sympathy of the participants. In addition, 45 items assessed social support from teachers, parents, and peers. Finally, 19 items measured the cultural differences and 9 items evaluated the participants' level of interaction with peers. The level of measurement of this instrument was a Likert scale that ranged from 1 to 5 (5 = Very much agree, 4= agree, 3= Neutral, 2= Disagree, 1= Very much

disagree). The participant was required to select one statement from each construct (or variable) that was the most relevant to her/him.

The psychosocial factors questionnaires were administered separately in four sessions with a total average of 45 minutes for completion. Questionnaires on psychological factors, social support, cultural differences, and level of peer interaction questionnaire were subsequently allotted 15, 20, 5, and 5 minutes as shown in Table 3.1. All the participants answered these questionnaires and their responses were manually captured in Excel 2010 before they were analyzed in SPSS.

Table 3.1: Administering of Psychosocial Factors Scale and Peers Interaction Scale

Sessions	Psychosocial Factors	Likert Scales	Timing
I	Psychological Factors	1= Totally disagree, 2= Disagree, 3= Neutral, 4= Agree, 5 = Totally agree	15 minutes
II	Social Support	1= Very much disagree, 2= Disagree, 3= Neutral, 4= agree, 5 = Very much agree	20 minutes
III	Cultural differences	1= Very much disagree, 2= Disagree, 3= Neutral, 4= agree, 5 = Very much agree	5 minutes
IV	Peer interaction	1= Very much disagree, 2= Disagree, 3= Neutral, 4= agree, 5 = Very much agree	3 minutes

3.11.6 Interpretation of Psychosocial Factors Scale and Peer Interaction Scale

The interpretation of psychosocial factors scale and Peer Interaction Scale for FAL data consists in making a meaning of the results. The interpretation of results involves stepping back from the detailed results and advancing their larger meaning in view of the research problem and questions in the study (Creswell & Plano Clark, 2011:209). For quantitative research, Creswell (2006) indicates that data interpretation in quantitative method compares the results with the initial research questions asked to determine how the questions were answered in the study. Through interpretation, the researcher links the results of the study and draw conclusions.

In the present pilot study, the researcher used SPSS to demonstrate the calculation of the possible Cronbach's alpha and the selection of a power item on the summated scale that can affect the resulting values of alpha.

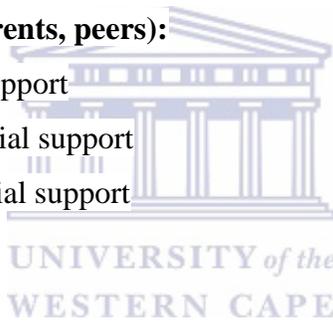
It goes without saying that it was necessary, for factor analysis, to attach the describing name to each factor once it was extracted and identified. The researcher used a validity analysis for all factors or components. The assigned name shows the predominant issue that each factor addressed. The researcher specified this model according to the support that it is best represented below.

Psychological factor:

- i. Factor I: Emotional regulation
- ii. Factor II: Aggressiveness
- iii. Factor III: Sympathy
- iv. Factor IV: Empathy

Social support (from teacher, parents, peers):

- i. Factor I: Affective social support
- ii. Factor II: Informational social support
- iii. Factor III: Instrumental social support



Cultural differences:

- i. Factor I: Knowledge of the cultures
- ii. Factor II: Motivational cultures
- iii. Factor III: Behavioural cultures

Peers Interaction:

- i. Factor I: level of interaction with peers

The names of factors or components can now be used as independent or predictor variables for this pilot study.

3.12 Results of the pilot study

This section presents and interprets the research results of the current pilot study. Descriptive statistics for the demographic data are described and statistics distribution and testing validity and reliability of psychosocial factors scale presented below.

3.12.1 Descriptive statistics of participant's demographic data

A total of 170 participants from three high schools were selected in the Western Cape and biographical data were collected for analysis. The following tables provide descriptive statistics analysis about gender, nationality, age, and grade level of participants in high schools in the Western Cape.

3.12.1.1 Gender of participants

The distribution of the sample with reference to the variable *participants' gender* is presented in Table 3.1 below.

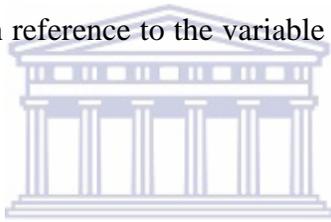


Table 3.2: Gender

Gender	Frequency	Valid Percent	Cumulative Percent
Male	84	49.4	49.4
Female	86	50.6	100
Total	170	100	

The biographical data from the survey showed that the number of female participants (86 out of 170 participants or 51%) was slightly higher than the number of male participants (84 out of 170 participants or 49%). In this study, the researcher used the variable gender for more discussion ($Mean = 1.506$, $SD = .5014$, $Skew = -.024$, $Kurt = -2.023$).

3.12.1.2 Nationality of participants

The distribution of the sample regarding the variable *participants' nationality* is presented in Table 3.3 below.

Table 3.3: Nationality

Nationality	Frequency	Valid Percent	Cumulative Percent
DR Congo	152	89.4	89.4
Congo Brazzaville	18	10.6	100
Total	170	100	

The biographical data from the survey informed this study that the majority of the participants were Congolese from DR Congo 89.4 % (152) whereas 18 (19.4%) of the sample were Congolese from Brazzaville. In this study, the researcher used *nationality* including Congolese (DRC) and Congolese from Congo Brazzaville for further interpretation ($M = 1.106$, $SD = .3086$, $Skew = 2.585$, $Kurt = 4.736$).

3.12.1.3 Age of participants

The variable age of francophone adolescent learners ranged from 14 to 20 years old. This variable is shown in Table 3.4 below.



Table 3.4: Age

Age	Frequency	Valid Percent	Cumulative Percent
14-17	117	68.8	68.8
≥ 18	53	31.2	100
Total	170	100	

The above table indicates that the majority of the sample population was under 18 years old. These participants were 117 and represented 68.8% of the whole sample population which consisted of 170 participants. The 53 (31.2%) remaining participants were either 18 or over 18. Obviously, less than 18-years-old participants were more than double compared to their counterparts. It is also clear that these participants' age relatively ranges 14 to 18 years old ($Mean = 16.594$, $SD = 1.5970$, $Skew = .140$, $Kurt = -9.13$).

3.12.1.4 Grade level of participants per schools

This study indicates that the sample population was chosen from Grade 7 to Grade 12. The grade level of participants comprised from 7th to 12th grade. As displayed in Table 3.5, the majority of

participants were in grade 9 (20.4%) while the majority of participants were coming from the high school I (41.1%).

Table 3.5: Grade level

Variables	Schools						Total N	%	
	School I	%	School II	%	School III	%			
Grade level	7 th	10	5.8%	4	2.3%	10	5.8%	24	13.9%
	8 th	14	8.2%	7	4.2%	12	7.3%	33	19.7%
	9 th	13	7.6%	9	5.2%	13	7.6%	35	20.4%
	10 th	11	6.4%	6	3.6%	11	6.4%	28	16.4%
	11 th	12	7.3%	4	2.3%	12	7.3%	28	16.4%
	12 th	10	5.8%	3	1.7%	9	5.2%	22	13.2%
Total	87	41.1%	31	19.3%	52	39.6%	170	100	

Table 3.5 indicates that the majority of the participants were School I learners. School III occupies the second position and School II comes last. In terms of percentage and following the order in which the three schools appear in the table, the participants from these three schools represented 41.1 %, 19.3 %, and 39.6 %.

In conclusion, the descriptive statistics for the demographic data show that females (86 participants or 51 %) who participated in the present pilot study slightly outnumbered the male participants (84 participants or 49 %). These statistics also indicate that there were far more of Congolese learners from the Democratic republic of Congo (DRC): 89.4 % (n = 152) compared to Congolese from Congo Brazzaville: 18 (19.4 %). With regard to age, more than half of the sample population was under 18 years old. Figures indicate that 117 (68.8 %) participants were under 18 whereas only 53 (31.2 %) were 18 or over 18. Finally, the majority of the participants were learners at School A (n = 87) whereas their grade level was Grade 9 (n = 35).

3.12.2 Testing reliability and validity of psychosocial factors scale

The purpose of this pilot study was to test the reliability and validity for psychosocial factors scale of Francophone Adolescent Learners (FAL) in high schools in the Western Cape, South Africa.

3.12.2.1 Reliability and validity analysis of psychosocial factors scale

This section deals with the reliability analysis or internal consistency and validity analysis of psychosocial factors scale of FAL in the selected high schools.

3.12.2.1.1 Reliability analysis of psychological factors scale

The reliability analysis of psychological factors scale was considered along with the internal consistency of coefficient Cronbach's alpha of each component or factor. However, the overall Cronbach's alpha estimated for psychological factors scale was .79. This indicates that the internal consistency of 24 items was acceptable for the participants in this pilot study and Table 3.6 provides the reader with more information. The different components including emotional regulation, aggressiveness, empathy and sympathy have been categorized.

Table 3.6: Overall internal consistency

Cronbach's Alpha(α)	Cronbach's Alpha Based on Standardized Items	Number of Items (n)
.79	.789	24

3.13 Reliability analysis for emotional regulation

The output from emotional regulation's reliability analysis indicates the Cronbach's alpha coefficient ($\alpha = .058$) as specified in Table 3.7a. This is less than .70 and signifies that the reliability is very low. In such a case, the researcher must check for incorrectly-scored items and items with low correlations or approaching to zero are deleted (Pallant's, 2013:104) if the internal consistency of reliability has to be considered. Pallant (2013) recommends researchers to do so any time the scale's overall Cronbach's alpha is less than .70 ($\alpha < .70$). Thus, items with low item-total correlations need to be removed as shown in Appendix 17 (Table 1).

Table 3.7a: Internal consistency of emotional regulation

Cronbach's Alpha (α)	Number of Items (n = 24)
.058	6

In this study, the researcher removed Items 2 and 3 from the component or factor. The researcher compared the values with the obtained final alpha value (.79) which is provided in Table 3.7.b below.

Table 3.7b: Internal consistency of emotional regulation

Cronbach's Alpha(α)	Number of Items (n = 24)
.79	4

3.14 Reliability analysis for aggressiveness

In the current pilot study, the Cronbach's alpha coefficient for aggressiveness was .73 as indicated in Table 3.8. This corroborates with George and Mallory's (2003) view that the satisfaction with life scale has an acceptable internal consistency when the Cronbach's alpha ranges from .70 to .79. However, in the present study, one item (Q5Aggress = .217) was identified as uncorrelated with the scale as illustrated in Appendix 17 (Table 2). This item "5Aggress" which is a component of aggressiveness was excluded for further analysis. According to Pallant (2013:92), if the value in the column standing for *corrected item-total correlation* is less than .3 (<.3), this particular item does not correlate very well with the overall scale.

Table 3.8: Internal consistency of aggressiveness

Cronbach's Alpha (α)	Number of Items (n = 24)
.73	7

3.15 Reliability analysis for empathy

The Cronbach's alpha coefficient for the empathy was .71 in the current pilot study as indicated in Table 3.9. This also corroborates with George and Mallory's view of satisfaction with life scale and the acceptable internal consistency (see comments on *Reliability analysis for aggressiveness*). However, unlike the previous results regarding reliability analysis for aggressiveness, all items appear to correlate to each other on the whole scale. Therefore, the value of all items in the column *corrected item-total correlation* is greater than about .3 (> .3) as revealed in Appendix 17 (Table 3). All the items in the empathy variable perfectly correlated to the overall scale and were thus acceptable.

Table 3.9: Internal consistency for empathy

Cronbach's Alpha (α)	Number of Items (n = 24)
.71	5

In this study, the reliability analysis for the whole scale showed a very reliable (.71) Cronbach's alpha coefficient.

3.16 Reliability analysis of sympathy

The Cronbach's alpha coefficient for sympathy was .67 as showed in the Table 3.10. Obviously, the internal validity is questionable. The satisfaction with life scale has a questionable internal consistency, with a Cronbach's alpha reported .60 to .69 (George & Mallory, 2003). However, in this study, all items correlated to the overall sympathy scale. The value of the items for sympathy in the *column corrected item-total correlation* is greater than about .3 (>.3) (Appendix 17, see Table 4) and these items entirely correlated to the overall scale. Items in sympathy category were thus reliable and acceptable.

Table 3.10: Internal consistency for sympathy

Cronbach's Alpha (α)	Number of Items (n =24)
.670	5

Based on Frydenberg and Lewis's (1993) suggestion, factors labels are suited to extract and should be retained. As indicated in table 3.14, the internal consistency for each component or variable of psychological factors subscale was inspected by using the Cronbach's alpha (α). However, the alphas were reasonable (see Table 3.11): .76 for emotional regulation (6 items), .73 for aggressiveness (8 items), .71 for empathy (5 items), and .67 for sympathy (5 items). This pilot study thus presented one substantial reason for increasing the alpha and any items from subscales that could not require to the cut-off value was eliminated.

Table 3.11: Recapitulation of Cronbach's alpha coefficient for psychological factors subscale

Factors	Cronbach's Alpha (α)	Number of Items (n = 24)
1 Emotional regulation	.76	6 (1, 2, 3, 4, 5,6)
2 Aggressiveness	.73	8 (1,2,3,4,5,6,7,8)
3 Empathy	.71	5 (1,2,3,4,5)
4 Sympathy	.67	5 (1,2,3,4,5)
Total		24

3.16.1.1 Validity analysis for psychological factors subscale

This section describes the validity analysis for psychological factors subscale. As the null hypothesis assumed, all items in psychosocial factors scale are uncorrelated. However, the researcher used the initial solution, assessed the Kaiser Meyer-Olkin (KMO), and the Bartlett's test and significance level of subscale to find out whether there was factorability between items. The factors analysis of psychological factors subscale was discussed as well.

a. Kaiser Meyer-Olkin (KMO), Bartlett's test and significance level

The researcher used the principal component analysis in the SPSS to evaluate the psychological factors subscale. The KMO value was .765, the Bartlett's test value 1145.062, and the significance level .000 as indicated in Table 3.12. As a result, it was believed in this study that the subscale instrument could be accepted for psychological factors data and that the factor analysis could be processed in the next step.

Table 3.12: KMO, Bartlett's test and significance level

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.769
Bartlett's Test of Sphericity	Approx. Chi-Square 1145.062
	Degree of freedom 276
	Significance .000

b. Factor analysis

Factor analysis was conducted to determine the components of psychological factors subscale existing for measures on the following 24 variables or items: Q5Emp, Q2Symp, Q1Emp, Q2Emp, Q3Emp, Q4Emp, Q1Symp, Q5EmReg, Q3Symp, Q5Symp, Q7Aggress, Q8Aggress, Q4Aggress, Q6Aggress, Q4Symp, Q1Aggress, Q6EmReg, Q2EmReg, Q2Aggress, Q4EmReg, Q1EmReg, Q3Aggress, and Q3EmReg.

The researcher retained four (4) components for psychological factors subscale and assumed that items or variables in the subscale were uncorrelated. However, the researcher used confirmatory factors analysis with orthogonal to confirm and verify whether the psychological factors dimension was valid. The principal component analysis used a varimax rotation in order to extract the common factors. Table 3.16 shows that the actual components were extracted of four factors. The rotation sums of squared loadings showed only those components which met the

cut-off criterion. Four factors named Factors I, II, III, and IV respectively accounted for 19.729 %, 14.320 %, 5.882 %, and 5.46 % of the variability in all 24 variables. The four components of the solutions which are represented 45.391 % of the total variability were preferred due to a previous theoretical support and insufficient number loadings (see Section 3.12.2.c).

c. Items removed

After rotation, a total of five (5) items out of twenty four (24) items were removed due to the fact that they did not sufficiently contribute to a simple factor structure. They failed to meet the minimum criteria which had a primary factor loading of .5 or above and no cross-loading of .3 or above. The factors loading for items “Q2EmReg” and "Q3EmReg", which are both components of factor I, were .445 and .447. In factor II, the factor loading for “Q2EmReg” was .463 whereas in factor III, the item “Q1Agress” had .349 as factor loading. Furthermore, in Factor IV, the item “Q2EmReg” and "Q3EmReg" respectively had .445 and .447 as factors loading for varimax solution. The items “Q3Symp” and “Q5Symp”, which are both components of factor I, were .447 and .412.

After the elimination of items that did not meet the criterion for selection, the researcher used, once again, the principal components factors analysis for the remaining nineteen (19) items and varimax rotation was used and conducted with three factors explaining 55.029 % of the variance as shown in table 3.13. This study considered varimax to be the best defined technique to provide the factor structure in the questionnaires. This study assumed that all items in this analysis had primary loadings over .5 and those variables typically having high loadings on only one factor would be taken (Aron & Aron, 1999). However, the item “Q5Emp” had a strong primary loading of .753 in factor I, the item “Q7Agress” had a strong primary loading of .79 in factor II, and the “Q2Agress” had a strong primary loading of .726 in factor III. The factor loading matrix for the final solution is represented in Table 3.14.

Table 3.13: Total variance explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.272	23.735	23.735	4.272	23.735	23.735
2	3.068	17.047	40.781	3.068	17.047	40.781
3	1.420	7.888	48.670	1.420	7.888	48.670
4	1.145	6.359	55.029	1.145	6.359	55.029
5	.958	5.320	60.349			
6	.888	4.932	65.281			
7	.787	4.370	69.652			
8	.748	4.156	73.808			
9	.700	3.889	77.697			
10	.640	3.557	81.253			
11	.615	3.416	84.669			
12	.562	3.123	87.792			
13	.501	2.782	90.574			
14	.420	2.331	92.905			
15	.389	2.164	95.069			
16	.344	1.912	96.980			
17	.288	1.600	98.580			
18	.389	2.164	95.069			
19	.256	1.420	100.000			

Extraction Method: Principal Component Analysis.

Table 3.14: Rotated component Matrix

Items	Components			
	1	2	3	4
Q1EmReg	.74			
Q4EmReg	.67			
Q5EmReg	.62			
Q6EmReg	.57			
Q2Aggress		.51		
Q3Aggress		.69		
Q4Aggress		.66		
Q6Aggress		.64		
Q7Aggress		.79		
Q8Aggress		.73		
Q1Emp			.63	
Q2Emp			.72	

Q3Emp	.52
Q4Emp	.63
Q5Emp	.62
Q1Symp	.61
Q2Symp	.73
Q4Symp	.53
Q5Symp	.64

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 5 iterations.

This study inspected the validity of cultural differences subscale. Their Kaiser Meyer-Olkin (KMO) was .769, the Bartlett’s test 1105.481, and significance level .000. Their factor analysis was conducted by using the principal components factors analysis for 24 items. The varimax rotations were led with four components or factors explaining 45.391 % of the variance. This study removed six (5) items that did not meet the criterion for selection. However, the researcher still used the principal components factors analysis for the remaining nineteen (19) items and the varimax rotation was used and conducted with three factors explaining 55 % of the variance (see Table 3.13). This study considered varimax to be the best defined method to provide the component or factor structure in the subscale. This study assumed that all items in this analysis had primary loadings over .5. However, the item “Q1EmReg” had a strong primary loading of .74 in factor I, the item “Q7Aggress” had a strong primary loading of .79 in factor II, the “Q2Emp” had a strong primary loading of .72 in factor III, and the item “Q2Symp” had a strong primary loading of .73 in factors IV. The factor loading matrix for the final solution was represented in Table 3.15.

Table 3.15: Construct validity of psychological factors for francophone adolescent learners

Model	Kaiser-Meyer-Olkin	Chi-Square (χ^2)	Degree of Freedom (<i>df</i>)	Factor Loadings
Factor I	0.519	21.674	3	0.74
Factor II	0.693	225.161	28	0.79
Factor II	0.753	148.016	10	0.72
Factor IV	0.576	35.096	3	0.73

3.16.1.2 Reliability analysis and validity analysis for social support subscale

This section explains the reliability analysis and the validity analysis performed for social support subscale from teachers, parents, and peers.

3.16.1.2.1 Reliability analysis for social support

The reliability analysis for the social support subscale with 45 items showed to be very reliable (.949) as indicated by the Cronbach's alpha coefficient presented in Table 3.16.

Table 3.16: Internal consistency reliability for social support

Cronbach's Alpha (α)	Number of Items (n)
.949	45

A) FROM TEACHERS

The reliability analysis for social support subscale from teachers is subdivided in the following three components: affective, informational, and instrumental components.

a. Reliability analysis for affective support from teachers

In the current pilot study, the Cronbach's alpha coefficient for the affective support from teachers was .76 as shown in Table 3.17, thus complying with George and Mallory's (2003) view that the satisfaction with life scale has a good internal consistency when the Cronbach's the reported alpha ranges between .70 and .79. Thus, all items in affective support from teacher's component were identified as correlating to the whole component (see Table 3.20 below). As the theory of group discrimination informed that if the value in the column *corrected item-total correlation* is less than about .3. (< .3) (Pallant, 2013:92), all items in affective support from teacher category were acceptable and reliable (Appendix 17, see Table 5).

Table 3.17: Internal consistency reliability for affective support from teacher

Cronbach's Alpha(α)	Number of Items (n)
.76	7

Table 3.18: Item-total-statistics

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1AfST	22.559	22.710	.526	.720
Q2AfST	22.976	23.337	.469	.733
Q3AfST	22.988	22.663	.514	.723
Q4AfST	22.459	25.066	.405	.746
Q5AfST	22.394	24.110	.440	.739
Q6AfST	22.559	22.899	.572	.711

b. Reliability analysis for informational support from teachers

Table 3.19 shows that the Cronbach’s alpha coefficient for the informational support from teacher was .77 in the current pilot study. Following George and Mallory’s (2003) suggestion that the satisfaction with life scale has an acceptable internal consistency when the Cronbach’s alpha is between .70 and .79, all items completely correlated to the whole component as indicated in Table 3.22. Referring to Pallant's (2013) view of the value in the column *corrected item-total correlation*; all the items in informational support from teacher’s component were acceptable.

Table 3.19: Internal consistency reliability for informational support from teacher

Cronbach's Alpha (α)	Number of Items (n)
.77	5

Table 3.20: Item-total-statistics

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1InfoST	9.09	13.927	.498	.742
Q2InfoST	9.02	13.455	.538	.729
Q3InfoST	9.17	13.113	.643	.695
Q4InfoST	8.96	12.998	.542	.728
Q5InfoST	9.15	13.558	.492	.745

c. Reliability analysis for instrumental support from teachers

The Cronbach’s alpha coefficient for the instrumental support from teacher was .61 (see Table 3.21) in the present pilot study. Therefore, the satisfaction with life scale has a questionable internal consistency because the reported Cronbach’s alpha is between .60 to .69 (George & Mallory, 2003). However, all items appeared to correlate to the whole component. According to Pallant (2013:92) if the value in the column corrected item-total correlation is less than about .3. (< .3), it means that this particular item does not correlate very well with the scale overall. This indicated that the items in instrumental support from teacher’s category were acceptable.

Table 3.21: Internal consistency reliability for instrumental support from teacher

Cronbach's Alpha (α)	Number of Items (n)
.61	3

Table 3.22: Item-total-statistics

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1InstST	7.39	4.109	.406	.519
Q2InstST	7.45	3.847	.462	.434
Q3InstST	7.11	4.490	.378	.557

A) FROM PARENTS

The reliability analysis for social support from parents was subdivided in affective, informational, and instrumental components.

a. Reliability analysis for affective support from parents

Table 3.23 indicates that the Cronbach's alpha coefficient for the affective support from parents was .84 in the current pilot study, which is in compliance with DeVellis's (2003) suggestion that the numerical value of alpha is acceptable when ranging from .70 to .95 and with George and Mallory's (2003) that the satisfaction with life scale has a good internal consistency with a Cronbach's alpha reported .80 to .89. In the present study, all items were identified to be correlating to the whole component as revealed in Table 3.24. Considering Pallant's (2013) view of the value in the column *corrected item-total correlation*, these items in affective support from parent's category were also acceptable.

Table 3.23: Internal consistency reliability for affective support from parents

Cronbach's Alpha(α)	Number of Items (n)
.84	7

Table 3.24: Item-Total statistics

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1AfSP	12.54	26.865	.611	.821
Q2AfSP	12.39	29.234	.491	.838
Q3AfSP	12.21	26.937	.566	.828
Q4AfSP	12.32	26.017	.648	.815
Q5AfSP	12.52	26.263	.672	.811
Q6AfSP	12.46	28.025	.599	.823
Q7AfSP	12.31	27.435	.611	.821

b. Reliability analysis for informational support from parents

Table 3.25 shows that the Cronbach's alpha coefficient for the informational support from parents was .83. Because the satisfaction with life scale has a good internal consistency when the Cronbach's alpha reported .80 to .89 (George & Mallory, 2003), all items appeared to correlate to the whole component as shown in Table 3.26. According to Pallant (2013), all the items in informational support from parent's category were acceptable.

Table 3.25: Internal consistency reliability for informational support from parents

Cronbach's Alpha (α)	Number of Items (n)
.83	5

Table 3.26: Item-Total statistics

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1InfoSP	8.38	15.195	.565	.817
Q2InfoSP	8.52	14.725	.676	.783
Q3InfoSP	8.50	14.464	.721	.770
Q4InfoSP	8.52	14.357	.680	.782
Q5InforSP	8.72	17.127	.513	.827

c. Instrumental analysis for support from parents

In the current pilot study the Cronbach's alpha coefficient for the instrument support from parents was .61 (see Table 3.27 below). This means that the satisfaction with life scale had a questionable internal consistency because the Cronbach's alpha was between .60 to .69 (George & Mallory, 2003). However, Table 3.28 indicates that all items were identified to be correlating

with the whole component. Furthermore, with reference to Pallant (2013), the items in instrumental support from parent's component were acceptable.

Table 3.27: Internal consistency for instrumental support from parents

Cronbach's Alpha (α)	Number of Items (n)
.61	3

Table 3.28: Item-total statistics

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1InstST	4.61	4.109	.406	.519
Q2InstST	4.55	3.847	.462	.434
Q3InstST	4.89	4.490	.378	.557

A) FROM PEERS

The reliability analysis for social support from peers also consists in three components which are the affective, informational, and instrumental components.

a. Reliability analysis for affective support from peers

The Cronbach's alpha coefficient for the factor affective support from peers was .86, thus meeting the norms of good internal consistency (George & Mallory, 2003) (see Table 3.29) and having all items correlating to the whole component (see Table 3.30). In relation to Pallant's (2013) of the value in the column corrected item-total correlation, all the items in affective support from peer's component were acceptable.

Table 3.29: Internal consistency for affective support from peers

Cronbach's Alpha (α)	Number of Items (n)
.86	7

Table 3.30: Item-total statistics

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1AfSCI	15.429	34.211	.639	.843
Q2AfSCI	15.035	33.679	.717	.832
Q3AfSCI	15.076	34.047	.696	.835
Q4AfSCI	15.418	35.452	.590	.850

Q5AfSC	15.406	36.030	.570	.852
Q6AfSC	15.194	35.341	.576	.852
Q7AfSCI	15.382	34.841	.646	.842

b. Reliability analysis for informational support from peers

In the current pilot study the Cronbach’s alpha coefficient for the factor informational support from peers was .86 as indicated in Table 3.31. According to George and Mallory (2003), the satisfaction with life scale has a good internal consistency, with a Cronbach’s alpha reported .80 to .89. In this study, all items correlated to with the whole component as showed in Table 3.32. These items also appeared to be acceptable since they responded to Pallant’s (2013) norms regarding the value in the column corrected item-total correlation.

Table 3.31: Internal consistency for affective support from peers

Cronbach's Alpha (α)	Number of Items (n)
.86	5

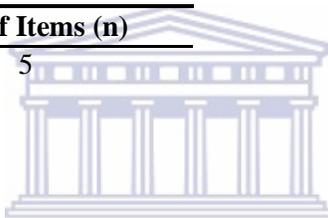


Table 3.32: Item-total statics

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1AfSCI	15.429	34.211	.639	.843
Q2AfSCI	15.035	33.679	.717	.832
Q3AfSCI	15.076	34.047	.696	.835
Q4AfSCI	15.418	35.452	.590	.850
Q5AfSC	15.406	36.030	.570	.852
Q6AfSC	15.194	35.341	.576	.852
Q7AfSCI	15.382	34.841	.646	.842

c. Reliability analysis for instrumental support from peers

In the current pilot study the Cronbach’s alpha coefficient for the factor instrumental support from peers was .76 as displayed in Table 3.33. According to George and Mallory (2003), the satisfaction with life scale has an acceptable internal consistency, with a Cronbach’s alpha reported .70 to .79. In this study, all items were identified to be correlating with the whole component as indicated in Table 3.34. According to Pallant (2013:92) if the value in the column corrected item-total correlation is less than about .3 (<.3), it means that this particular item does

not correlate very well with the scale overall. This indicates that items in instrumental support from peer's component were acceptable.

Table 3.33: Internal consistency reliability for informational support from peers

Cronbach's Alpha (α)	Number of Items (n)
.76	3

Table 3.34: Item-total statistics

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1InstSCI	4.82	4.631	.594	.671
Q2InstSCI	4.75	4.400	.603	.659
Q3InstSC	4.71	4.434	.569	.700

Based on Frydenberg and Lewis's (1993) suggestion, factors labels are suited to extract and should be taken. As indicated in Table 3.35, the internal consistency for each subscale of social support from teachers, parents and peers was examined by using the Cronbach's alpha (α). All the alphas were adequate: .76 for affective support from teachers (7 items), .77 for informative support from teachers (5 items), .61 for instrumental support from teachers (3 items), .84 for affective support from parents (7 items), .83 for informative support from parents (5 items), .61 for instrumental support from parents (3 items), .86 for affective support from peers (7 items), .86 for informative support from peers (5 items), and .76 for instrumental support from peer (3 items). Thus, there was no substantial reason for increasing the alpha and none of the subscales could not meet the requirement to be eliminated more items.

Table 3.35: Summary of Cronbach's alpha coefficient of social support questionnaires

	Factors	Cronbach's Alpha ($\alpha = .80$)	Number of Items (n = 45)
From teacher	Affective support	.76	7 (1,2,3,4,5,6,7)
	Informational support	.77	5 (1,2,3,4,,5)
	Instrumental support	.61	3 (1,2,3)
From parents	Affective support	.84	7 (1,2,3,4,,5,6,7)
	Informational support	.83	5 (1,2,3,4,,5)
	Instrumental support	.61	3 (1,2,3)
From peers	Affective support	.86	7 (1,2,3,4,,5,6,7)

Informational support	.86	5 (1,2,3,4,,5)
Instrumental support	.76	3 (1,2,3)
Total		45

3.16.1.2.2 Validity analysis for social support from teacher, parents and peers

This section describes the validity analysis of social support subscale from teachers, parents, and peers. It includes their Kaiser Meyer-Olkin (KMO), Bartlett’s test and significance level. The factor analysis for social support was presented as well in this section.

A) FROM TEACHERS

a. Kaiser Meyer-Olkin (KMO), Bartlett’s test and significance level

In this study, the researcher used the principal component analysis in the SPSS to evaluate the social support from teachers' subscale. The KMO value was .857, the Bartlett’s test value 836.056, and the significance level .000 (see Table 3.36). With regard to the hypothesis, it was believed that the items of this instrument could be accepted for social support from teacher’s data. Put differently, the items or variables could further be evaluated and the factor analysis could be processed to perform for the next step.

Table 3.36: KMO, Bartlett’s test and significance level

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.857
Bartlett's Test of Sphericity	Approx. Chi-Square 836.056
	Degree of freedom 105
	Significance .000

b. Factor analysis

Factor analysis was conducted to determine the existing components of social support from teachers subscale for the measurement of the following 15 variables or items: Q1AfST, Q2AfST, Q3AfST, Q4AfST, Q5AfST, Q6AfST, Q7AfST, Q1InfoST, Q2InfoST, Q3InfoST, Q4InfoST, Q5InfoST, Q1InstST, Q2InstST, and Q3InstST.

The principal component analysis was conducted using a varimax rotation. The initial analysis from the researcher retained three components with the assumption that the items or variables in

the subscale were uncorrelated. This allowed the researcher to use confirmatory factors analysis with orthogonal analysis in order to confirm and verify if the social support dimension was valid. The principal component analysis was conducted to retain three components. This analysis used a varimax rotation in order to extract the common components.

The researcher used SPSS and fixed three (3) factors to extract for social support from teachers subscale that are actually showed in Table 3.37. The rotation sums of squared loadings showed only those factors which met the cut-off criterion. This study suggested three (3) appropriate factors for social support from teachers. Factor I accounted for 35.958 % of the variability in all 15 variables, factor II accounted for 9.575 % of the variability in all 15 variables, and factor III accounted for 7.905 % of variability in all 15 variables. The three factors solution which explained 53.438 % of the variance was preferred due to the previous theoretical support, the eigen-values on the scree-plot after three factors, and the insufficient number of loadings.

c. Total variance explained

Table 3.37: Total variance explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.394	35.958	35.958	5.394	35.958	35.958	3.473	23.153	23.153
2	1.436	9.575	45.533	1.436	9.575	45.533	2.276	15.176	38.328
3	1.186	7.905	53.438	1.186	7.905	53.438	2.266	15.109	53.438
4	.942	6.278	59.715						
5	.838	5.587	65.303						
6	.823	5.488	70.790						
7	.764	5.094	75.885						
8	.686	4.576	80.461						
9	.585	3.897	84.358						
10	.492	3.279	87.637						
11	.474	3.162	90.798						
12	.391	2.605	93.404						
13	.353	2.352	95.756						
14	.331	2.206	97.962						
15	.306	2.038	100.000						

Extraction Method: Principal Component Analysis.

After rotation, all the fifteen (15) items sufficiently showed to contribute to the structure of social support from teacher subscale. They met to the minimum criteria which had a primary factor loading of .5 or above as indicated in Table 3.38.

The researcher used the principal component factors analysis for 15 items and the varimax rotations conducted with three factors explaining 53.438 % of the variance (see Table 3.37). This study considered varimax the greatest defined technique to provide the factor structure in the questionnaire for social support from teacher. The study also assumed that all items in this analysis had primary loadings over .5. However, the item “Q3InfoST” had a strong primary loading of .726 in factor I, the item “Q1AfST” had a strong primary loading of .762 in factor II, and the “Q2Agress” had a strong primary loading of .619 in factor III. The factor loading matrix for the final solution was represented in Table 3.38.

Table 3.38: Rotated component Matrix

Items	Component		
	1	2	3
Q1AfST	.762		
Q2AfST	.693		
Q3AfST	.738		
Q4AfST	.528		
Q5AfST	.584		
Q6AfST	.798		
Q7AfST	.752		
Q1InfoST		.503	
Q2InfoST		.665	
Q3InfoST		.726	
Q4InfoST		.691	
Q5InfoST		.525	
Q1InstST			.566
Q2InstST			.701
Q3InstST			.624



Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 6 iterations.

This study inspected the validity of social support from teachers subscale. Their Kaiser Meyer-Olkin (KMO) was .857, Bartlett’s test 836.056, and significance level .000. (χ^2 ()) Their factor analysis was conducted by using the principal component factors analysis for 15 items. After rotation, all items in social support from teacher subscale achieved the criterion for selection; the varimax rotation was used and conducted with three factors explaining 53.438 % of the variance as shown in Table 3.39. This study considered varimax the best defined to provide the component or factor structure in the subscale. This study assumed that all items in this analysis

had primary loadings over .5. However, the item “Q6AfST” had a strong primary loading of .798 in factor I, the item “Q3InfoST” had a strong primary loading of .726 in factor II, and the “Q2InstST” had a strong primary loading of .701 in factor III. The factor loading matrix for the final solution was represented in table 3.39.

Table 3.39: Model fit: Construct validity of Social support from teachers for Francophone Adolescent Learners

Model	Kaiser-Meyer-Olkin	Chi-Square (χ^2)	Degree of freedom(df)	Factor Loadings
Factor I	0.754	269.297	21	.798
Factor II	0.758	210.774	10	.726
Factor III	0.629	53.542	3	.701

A) FROM PARENTS

a. Kaiser Meyer-Olkin (KMO), Bartlett’s test and significance level

In this study, the researcher used the principal component analysis in the SPSS to evaluate the social support from parents subscale. Their KMO value was .926, Bartlett’s test value indicated 1330.625, and the significance level was .000 as indicated in Table 3.40. Therefore, this study believed that the items of this instrument could be accepted for social support from parent’s data. In other words, the items or variables could be used for more examination and the factor analysis could be started to proceed to the next step.

Table 3.40: KMO, Bartlett’s test and significance level

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.926
Bartlett's Test of Sphericity	Approx. Chi-Square
	1330.625
	Degree of freedom
	105
	Significance
	.000

b. Factor analysis

Factor analysis was conducted to determine the existing components of social support from parents subscale for the measurement of the following 15 variables or items: Q1AfSP, Q2AfSP, Q3AfSP, Q4AfSP, Q5AfSP, Q6AfSP, Q7AfSP, Q1InfoSP, Q2InfoSP, Q3InfoSP, Q4InfoSP, Q5InfoSP, Q1InstSP, Q2InstSP, and Q3InstSP.

The principal component analysis was conducted using a varimax rotation. The initial analysis retained three components. This study assumed that items or variables in the subscale are uncorrelated. The researcher used confirmatory factors analysis with orthogonal analysis in order to confirm and verify if the social support dimension was valid. The principal component analysis was conducted to retain three components and used a varimax rotation in order to extract common factors. The researcher used SPSS to extract the number of factors for social support subscale. Table 3.41 shows that the actual factors were extracted of three variables. The rotation sums of squared loadings showed only those factors meeting the cut-off criterion. This study indicated three (3) factors in total variance explained in Table 3.42. Factor I accounted for 49.730 % of the variability in all 15 variables, factor II accounted 6.913 % of the variability in all 15 variables, and factor III accounted 6.080 % of variability in all 15 variables. The three factors solution which explained 62.722 % of the variance was preferred due to the previous theoretical support, the eigenvalues on the scree-plot after three factors.

Table 3.41: Total variance explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.459	49.730	49.730	7.459	49.730	49.730	3.599	23.991	23.991
2	1.037	6.913	56.642	1.037	6.913	56.642	2.989	19.929	43.921
3	.912	6.080	62.722	.912	6.080	62.722	2.820	18.802	62.722
4	.807	5.379	68.101						
5	.768	5.118	73.219						
6	.640	4.264	77.483						
7	.539	3.592	81.075						
8	.513	3.420	84.495						
9	.469	3.125	87.619						
10	.402	2.678	90.298						
11	.349	2.327	92.624						
12	.321	2.142	94.766						
13	.300	2.002	96.768						
14	.251	1.676	98.445						
15	.233	1.555	100.000						

Extraction Method: Principal Component Analysis.

c. Item Removed

After rotation, only one (1) item out of fifteen (15) items was removed because it did not sufficiently contribute to a simple factor structure and due to the fact that it failed to meet the

minimum criterion which had a primary factor loading of .5 or above and no cross-loading of .3 or above. The item “Q5InfoSP” had factor loading .398 in factor III for varimax solution.

After eliminating the one (1) item that did not meet the criterion for selection, the researcher further used the principal components factors analysis for the remaining seventeen (14) items and varimax rotation was used and conducted with three factors explaining 64.811 % of the variance (see Table 3.42). This study considered varimax the best defined to provide the component or factor structure in the subscale. This study assumed that all items in this analysis had primary loadings over .5. As variables are typically having high loading, only one factor would be taken (Aron & Aron, 1999). However, the item “Q6AfSP” had a strong primary loading of .988 in factor I, the item “Q3InfoSP” had a strong primary loading of .784 in factor II, and the “Q2InstSP” had a strong primary loading of .676 in factor III. The factor loading matrix for the final solution is presented in Table 3.43.

Table 3.42: Total variance explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.129	50.925	50.925	7.129	50.925	50.925	3.537	25.264	25.264
2	1.033	7.376	58.300	1.033	7.376	58.300	2.824	20.171	45.435
3	.911	6.511	64.811	.911	6.511	64.811	2.713	19.376	64.811
4	.805	5.753	70.564						
5	.684	4.886	75.450						
6	.543	3.882	79.332						
7	.518	3.698	83.029						
8	.491	3.507	86.537						
9	.404	2.889	89.426						
10	.368	2.629	92.055						
11	.326	2.331	94.386						
12	.301	2.149	96.535						
13	.252	1.798	98.333						
14	.233	1.667	100.000						

Extraction Method: Principal Component Analysis.

Table 3.43: Rotated component Matrix

Items	Component		
	1	2	3
Q1AfSP	.668		
Q2AfSP	.718		
Q3AfSP	.703		
Q4AfSP	.606		
Q5AfSP	.527		
Q6AfSP	.799		
Q7AfSP	.679		
Q1InfoSP		.748	
Q2InfoSP		.739	
Q3InfoSP		.784	
Q4InfoSP		.608	
Q1InstSP			.590
Q2InstSP			.676
Q3InstSP			.528

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 11 iterations.

This study inspected the validity of social support from parents subscale. Their Kaiser Meyer-Olkin (KMO) was .926, the Bartlett's test was 1330.625, and the significance level was .000. Their factor analysis was conducted by using the principal components factors analysis for 15 items. After eliminating the one (1) item that did not meet the criterion for selection, the researcher used the principal components factors analysis for the remaining fourteen (14) items and varimax rotations was used and conducted with three factors explaining 63.811 % of the variance as shown in Table 3.18. This study considered varimax the best defined to provide the component or factor structure in the subscale. This study assumed that all items in this analysis had primary loadings over .5. However, the item "Q6AfSP" had a strong primary loading of .799 in factor I, the item "Q3InfoSP" had a strong primary loading of .784 in factor II, and the "Q2InstSP" had a strong primary loading of .676 in factor III. The factor loading matrix for the final solution was represented in Table 3.44.

Table 3.44: Construct validity of Social support from parents for Francophone Adolescent Learners

Model	Kaiser-Meyer-Olkin	Chi-Square χ^2	Degree of freedom (<i>df</i>)	Factor loadings
Factor I	.827	419.555	21	.799
Factor II	.788	258.214	6	.784
Factor III	.702	156.954	3	.676

A) FROM PEERS

a. Kaiser Meyer-Olkin (KMO), Bartlett’s test and significance level

In this study, the researcher used the principal component analysis in the SPSS to evaluate the social support from peers. Their KMO value was .923, Bartlett’s test value indicated 1388.261, and significance level was .000 as indicated in Table 3.45. Therefore, this study believed that the items of this instrument could be accepted for psychological factors data. This means that the variables can be treated to the next step for the factor analysis.

Table 3.45: KMO, Bartlett’s test and significance level

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.923
Bartlett's Test of Sphericity	Approx. Chi-Square 1388.261
	Degree of freedom 105
	Significance .000

b. Factor analysis

Factor analysis was conducted to determine the components of social support from classmates or peers subscale existed for measurement on the following 15 variables or items: Q1AfSCI, Q2AfSCI, Q3AfSCI, Q4AfSCI, Q5AfSCI, Q6AfSCI, Q7AfSCI, Q1InfoSCI, Q2InfoSCI, Q3InfoSCI, Q4InfoSCI, Q5InfoSCI, Q1InstSCI, Q2InstSCI, and Q3InstSCI.

The principal component analysis was conducted using a varimax rotation in this study. The researcher had initially retained three components for social support from peers. This study assumed that items or variables in the subscale are uncorrelated. The researcher used confirmatory factor analysis with orthogonal analysis to confirm and verify if the social support dimension was valid. The principal component analysis was conducted to retain three components and used a varimax rotation in order to extract the common factors. The researcher used SPSS to extract the number of factors for social support from peers subscale. The rotation

sums of squared loadings showed only those factors which met the cut-off which criterion. This study maintained three (3) factors as described in Table 3.46. Factor I accounted for 35.958 % of the variability in all 15 variables, factor II accounted 9.575 % of the variability in all 15 variables, and factor III accounted 7.905 % of variability in all 15 variables. The three factors solution which was explained 64.069 % of the variance was preferred due to the previous theoretical support, the eigenvalues on the scree-plot after three factors, and the insufficient number loadings.

Table 3.46: Total variance explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.582	50.548	50.548	7.582	50.548	50.548	3.722	24.814	24.814
2	1.142	7.612	58.159	1.142	7.612	58.159	3.079	20.524	45.338
3	.887	5.910	64.069	.887	5.910	64.069	2.810	18.731	64.069
4	.794	5.295	69.364						
5	.652	4.345	73.709						
6	.609	4.061	77.770						
7	.556	3.706	81.476						
8	.513	3.418	84.894						
9	.478	3.185	88.079						
10	.404	2.694	90.773						
11	.366	2.443	93.217						
12	.282	1.881	95.098						
13	.261	1.740	96.838						
14	.247	1.649	98.487						
15	.227	1.513	100.000						

Extraction Method: Principal Component Analysis.

After rotation, all fifteen (15) items sufficiently showed to contribute in the structure of social support from teacher subscale. They met the minimum criteria which had a primary factor loading of .5 or above as indicated in Table 3.47.

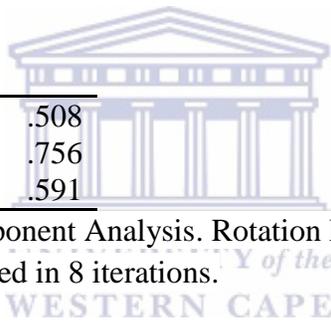
The researcher used the principal components factors analysis for 15 items and the varimax rotations conducted with three factors explaining 53.438 % of the variance as shown in Table 3.39. This study considered varimax the greatest defined to provide the factor structure in the subscale for social support from peers. This study assumed that all items in this analysis had primary loadings over .5. However, the item “Q3InfoST” had a strong primary loading of .726 in the factor I, the item “Q1AfST” had a strong primary loading of .762 in the factor II, and the

“Q2Agress” had a strong primary loading of .619 in the factor III. The factor loading matrix for the final solution was represented in Table 3.48.

Table 3.47: Rotated component Matrix

Items	Component		
	1	2	3
Q1AfSCl	.796		
Q2AfSCl	.585		
Q3AfSCl	.730		
Q4AfSCl	.742		
Q5AfSC	.504		
Q6AfSC	.659		
Q7AfSCl	.787		
Q1InfoSCl		.680	
Q2InfoSCl		.627	
Q3InfoSCl		.726	
Q4InfoSCl		.645	
Q5InfoSCl		.700	
Q1InstSCl			.508
Q2InstSCl			.756
Q3InstSC			.591

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 8 iterations.



This study inspected the validity of social support from peers subscale. Their Kaiser Meyer-Olkin (KMO) was .923, Bartlett’s test was 1388.261, and significance level was .000. Their factor analysis was conducted by using the principal components factors analysis for 15 items. The varimax rotations lead with three components or factors explaining 64.069 % of the variance as shown in Table 3.39. In this study, no item was removed because any criterion for selection was met. This study considered varimax the best defined to provide the component or factor structure in the subscale. This study assumed that all items in this analysis had primary loadings over .5. However, the item “Q3InfoST” had a strong primary loading of .796 in the factor I, the item “Q1AfST” had a strong primary loading of .726 in the factor II, and the “Q2Agress” had a strong primary loading of .756 in the factor III. The factor loading matrix for the final solution was represented in Table 3.48.

Table 3.48: Construct validity model fit of Social support from peers for Francophone Adolescent Learners

Model	Kaiser-Meyer-Olkin	Chi-Square χ^2	Degree of freedom (<i>df</i>)	Factor loadings
Factor I	.860	481.788	21	.796
Factor II	.834	381.667	10	.726
Factor III	.694	122.531	3	.756

3.16.1.3 Reliability analysis and validity analysis for cultural differences subscale

In this study, the reliability analysis and validity analysis of cultural differences were subdivided in three categories including knowledge of cultures, motivational cultures, and behavioural cultures.

3.16.1.3.1 Reliability analysis of cultural differences

The reliability analysis for cultural differences subscale was subdivided in three components including knowledge of cultures, motivational of cultures, and behavioural cultures.

a. Reliability analysis of knowledge of cultures

In this study, the reliability analysis for the knowledge of cultures component with 6 items showed a very reliable (.85) and the Cronbach's alpha coefficient was indicated in Table 3.49. According to George and Mallory (2003), the satisfaction with life scale has a good internal consistency, with a Cronbach's alpha reported .80 to .89. In the current pilot study, as the Cronbach's alpha coefficient for the component knowledge of cultures was .85, this concludes that all items were retained reliable.

Table 3.49: Internal consistency reliability

Cronbach's Alpha (α)	Number of Items (n)
.85	6

Table 3.50: Item total statistics

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1KwdgCult	10.476	19.825	.636	.820
Q2KwdgCult	10.694	19.906	.705	.805
Q3KwdgCult	10.500	21.293	.650	.817
Q4KwdgCult	10.488	20.595	.735	.802
Q5KwdgCult	10.259	21.731	.524	.840
Q6KwdgCult	10.229	21.846	.535	.838

b. Reliability analysis of motivational of cultures

In the current pilot study, the Cronbach's alpha coefficient for the factor motivational cultures component was .69 as presented in Table 3.51. According to George and Mallory (2003), the satisfaction with life scale has a questionable internal consistency, with a Cronbach's alpha reported .69. The total Cronbach's alpha coefficient characterizing internal consistency of the motivational cultures factor was .69, this concluded that all items was accepted for reliability.

Table 3.51: Internal consistency reliability

Cronbach's Alpha (α)	Number of Items (n)
.69	6

Table 3.52: Item-total statistics

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1MtvCult	12.218	15.769	.425	.649
Q2MtvCul	11.888	16.017	.383	.661
Q3MtvCul	11.759	15.214	.441	.643
Q4MtvCul	11.688	14.251	.467	.634
Q5MtvCul	12.029	14.632	.537	.611
Q6MtvCul	11.624	16.414	.282	.695

c. Reliability analysis of behavioural cultures

In this study, the reliability analysis for the behavioural cultures component with 7 items was very reliable (.83) and the Cronbach's alpha coefficient was presented in Table 3.53. According

to George and Mallory (2003), the satisfaction with life scale has a good internal consistency, with a Cronbach's alpha reported .80 to .89. In the current pilot study, as the Cronbach's alpha coefficient for the behavioural cultures was .83, this indicates that all items were retained reliable.

Table 3.53: Internal consistency reliability

Cronbach's Alpha (α)	Number of Items (n)
.83	7

Table 3.54: Item total statistics

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1BiaCul	16.24	26.456	.594	.805
Q2BiaCul	16.25	24.829	.692	.788
Q3BiaCul	16.08	27.456	.542	.813
Q4BiaCul	16.31	27.281	.557	.811
Q5BiaCul	16.13	27.143	.532	.815
Q6BiaCul	16.19	25.708	.648	.796
Q7BiaCul	16.23	27.255	.482	.824

Based on Frydenberg and Lewis's (1993) suggestion, factors labels are suited to extract and should be retained. As indicated in the Table 3.55, the internal consistency for each of component of cultural differences was reviewed by using the Cronbach's alpha (α). However, the alphas were reported as .85 for knowledge of cultures (6 items), .69 for motivational cultures (6 items), and .83 for behavioural cultures (7 items).

Table 3.55: Summary of Cronbach's alpha of cultural differences subscale

Factors	Cronbach's Alpha ($\alpha = .85$)	Number of items (n=19)
Knowledge of cultures	.85	6
Motivational cultures	.69	6
Behavioural cultures	.83	7
Total		19

3.16.1.3.2 Validity analysis for cultural differences subscale

This section describes the validity analysis of cultural differences subscale. This consisted to examine it Kaiser Meyer-Olkin (KMO), Bartlett's test and significance level. The factor analysis for cultural differences will be presented as well as in this section.

a. Kaiser Meyer-Olkin (KMO), Bartlett's test and significance level

In this study, the researcher used the principal component analysis in the SPSS to evaluate the cultural differences subscale. The KMO value was .830, the Bartlett's test value indicated 1293.885, and the significance level was .000 as indicated in Table 3.56. Therefore, this study believed that the items or variables of this instrument can be accepted for cultural differences data. This means that these variables are not totally uncorrelated and the factor analysis can be processed to the next step.

Table 3.56: KMO, Bartlett's test and significance level

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.830
Bartlett's Test of Sphericity	Approx. Chi-Square	1293.885
	Degree of freedom	171
	Significance	.000

b. Factor analysis

Factor analysis was conducted to determine the components of cultural differences subscale existed for measures on the following 19 variables or items: Q1KwgCult, Q2KwgCult, Q3KwgCult, Q4KwgCult, Q5KwgCul, Q6KwgCul, Q1MtvCul, Q2MtvCul, Q3MtvCul,, Q4MtvCul, Q5MtvCul, Q6MtvCul, Q1BvCul, Q2BvCul, Q3BvCul, Q4BvCul, Q5BvCul, Q6BvCul., and Q7BvCul.

The principal component analysis was conducted using a varimax rotation in order to extract the common factors in this study. The researcher initially retained three (3) components or factors. This study assumed that items or variables in the subscale are uncorrelated. This allowed the researcher to use the confirmatory factor analysis with orthogonal analysis in order to verify if items are correlated very well in the components. The researcher used SPSS to extract the three components for cultural differences subscale. The rotation sums of squared loadings showed only those factors met the cut-off which criterion as described in Table 3.57. Component I

accounted for 32.6 % of the variability in all 19 variables, factor II accounted 13.1 % of the variability in all 19 variables, and factor III accounted 6.6 % of variability in all 19 variables. The three factors solution which was explained 52.35 % of the variance was preferred due to the previous theoretical support.

Total variance explained

Table 3.57: Total variance explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.198	32.622	32.622	6.198	32.622	32.622	4.287	22.564	22.564
2	2.487	13.090	45.712	2.487	13.090	45.712	3.590	18.897	41.461
3	1.262	6.642	52.354	1.262	6.642	52.354	2.070	10.893	52.354
4	1.072	5.645	57.999						
5	.957	5.038	63.037						
6	.856	4.504	67.541						
7	.793	4.175	71.716						
8	.732	3.850	75.566						
9	.665	3.500	79.067						
10	.641	3.375	82.442						
11	.595	3.129	85.571						
12	.465	2.449	88.020						
13	.430	2.263	90.282						
14	.420	2.210	92.493						
15	.387	2.038	94.531						
16	.341	1.797	96.328						
17	.284	1.495	97.823						
18	.224	1.178	99.001						
19	.190	.999	100.000						

Extraction Method: Principal Component Analysis.

c. Item Removed

After rotation, a total of two (2) items out of nineteen (19) items were removed due to the fact that they did not sufficiently contribute to a simple factor structure. They failed to meet the minimum criteria which had a primary factor loading of .5 or above and no cross-loading of .3 or above. The item “Q3MitvCul” had factor loading .466 in the factor III, and the item “Q7BvCul” had factor loading .462 both in the factor II for varimax solution.

Table 3.58: Rotated component Matrix

Items	Component		
	1	2	3
Q1KwgCult	.725		
Q2KwgCult	.811		
Q3KwgCult	.722		
Q4KwgCult	.800		
Q5KwgCul	.652		
Q6KwgCul	.594		
Q1MtvCul		.557	
Q2MtvCul		.543	
Q3MtvCul		.399	
Q4MtvCul		.703	
Q5MtvCul		.678	
Q6MtvCul		.563	
Q1BvCul			.658
Q2BvCul			.779
Q3BvCul			.755
Q4BvCul			.604
Q5BvCul			.520
Q6BvCul			.739
Q7BvCul			.462

Extraction Method: Principal Component Analysis.

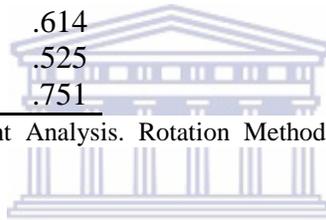
Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 7 iterations.

After removing these two (2) items that did not meet the criterion for selection, the researcher used again the principal components factors analysis for the seventeen (17) remaining items and varimax rotations was used and conducted with three factors explaining 54.718 % of the variance as shown in Table 3.18. This study considered varimax the best defined to provide the component or factor structure in the subscale. This study assumed that all items in this analysis had primary loadings over .5. And variables are typically having high loading on only one factor will be taken (Aron & Aron, 1999). However, the item “Q2KwgCult” had a strong primary loading of .814 in the factor I, the item “Q4MtvCult” had a strong primary loading of .742 in the factor II, and the “Q2BvCul” had a strong primary loading of .780 in the factor III. The factor loading matrix for the final solution was represented in Table 3.59.

Table 3.59: Rotated component Matrix

Items	Component		
	1	2	3
Q1KwgCult	.730		
Q2KwgCult	.814		
Q3KwgCult	.741		
Q4KwgCult	.811		
Q5KwgCul	.639		
Q6KwgCul	.585		
Q1MtvCul		.538	
Q2MtvCul		.522	
Q4MtvCul		.742	
Q5MtvCul		.660	
Q6MtvCul		.571	
Q1BvCul			.665
Q2BvCul			.780
Q3BvCul			.759
Q4BvCul			.614
Q5BvCul			.525
Q6BvCul			.751

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 6 iterations.



This study inspected the validity of cultural differences subscale. Their Kaiser Meyer-Olkin (KMO) was .83, Bartlett's test was 1293.885, and significance level was .000. Their factor analysis was conducted by using the principal components factors analysis for 19 items. The varimax rotations lead with three components or factors explaining 52.35 % of the variance as shown in Table 3.39. This study removed two (2) items that did not meet the criterion for selection. However, the researcher used again the principal components factors analysis for seventeen (17) items remaining and varimax rotations was used and conducted with three factors explaining 54.718 % of the variance as shown in table 3.18. This study considered varimax the best defined to provide the component or factor structure in the subscale. This study assumed that all items in this analysis had primary loadings over .5. However, the item "Q2KwgCult" had a strong primary loading of .814 in the factor I, the item "Q4MtvCult" had a strong primary loading of .742 in the factor II, and the "Q2BvCul" had a strong primary loading of .780 in the factor III. The factor loading matrix for the final solution was represented in Table 3.60.

Table 3.60: Construct validity model fit of Social support from peers for Francophone Adolescent Learners

Model	Kaiser-Meyer-Olkin	Chi-Square χ^2	Degree of freedom (<i>df</i>)	Factor loadings
Factor I	.860	481.788	21	.796
Factor II	.834	381.667	10	.726
Factor III	.694	122.531	3	.756

3.16.1.4 Reliability and validity analysis for peer interaction scale

In this pilot study, the reliability and validity analysis for peer interaction was considered to measure the component of level of interaction with peers.

3.16.1.4.1 Reliability analysis of peer interaction

Level of interaction with peers

In this study, the reliability analysis for the level of interaction with peers subscale with five (5) items was showed a very reliable (.750) and the Cronbach's alpha coefficient was demonstrated in Table 3.58.

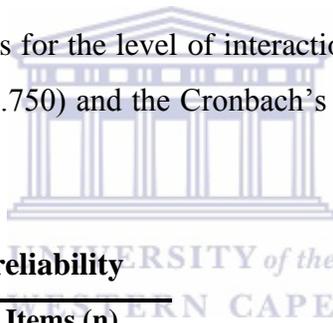


Table 3.61: Internal consistency reliability

Cronbach's Alpha (α)	Number of Items (n)
.750	5

According to George and Mallory (2003), the satisfaction with life scale has an acceptable internal consistency, with a Cronbach's alpha reported .70 to .79. In the current pilot study, the Cronbach's alpha coefficient for the component level of interaction with peers was .750; this concluded that all items were acceptable for reliability analysis.

Table 3.62: Item-Total Statistics

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1LevIPs	9.88	12.175	.481	.719
Q2LevIPs	10.02	11.615	.556	.690
Q3LevIPs	9.89	11.650	.626	.665
Q4LevIPs	9.83	11.941	.548	.693
Q5levPs	10.26	13.545	.372	.753

Based on Frydenberg and Lewis's (1993) suggestion, factors labels are suited to extract and should be retained. As indicated in the Table 3.62, the internal consistency for each component of reaction to interaction with peers was inspected by using the Conbrach's alpha (α). However, the alpha was reasonable such as .75 for level of interaction (5 items). This study indicated any substantial cause to increase the alpha and any of the items in components could not achieve to be eliminated.

Table 3.63: Summary of Cronbach's alpha coefficient of reaction to interaction with peers

Factors	Cronbach's alpha ($\alpha = .85$)	Number of items (n = 9)
Level of interaction	.75	5
Total		5

3.16.1.4.2 Validity analysis for peer interaction scale

This section describes the validity analysis of level of peer interaction scale. This consisted to examine their Kaiser Meyer-Olkin (KMO), Bartlett's test and significance level. The factor analysis for level of interaction with peers will be presented as well as in this section.

a. Kaiser Meyer-Olkin (KMO), Bartlett's test and significance level

In this study, the researcher used the principal component analysis in the SPSS to evaluate the level of peer interaction. Their KMO value was .824, the Bartlett's test value indicated 384.543, and the significance level was .000 as indicated in Table 3.56. Therefore, this study believed that the instrument can be accepted for level of interaction with peer's data. This means that the items or variables are not totally uncorrelated and the factor analysis can be processed to the next step.

Table 3.64: KMO, Bartlett's test and significance level

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.824
Bartlett's Test of Sphericity	
Approx. Chi-Square	384.543
Degree of freedom	28
Significance	.000

b. Factor analysis

Factor analysis was conducted to determine components among peer interaction scale that existed for measurement on the following 5 variables or items: Q1LvIntP, Q2LvIntP, Q3LvIntP, Q4LvIntP, and Q5LvIntP. The principal component analysis was conducted by using a varimax rotation in order to extract the common factors in this study. The researcher initially suggested one (1) component. This study assumed that all items or variables in the subscale are uncorrelated. This led the researcher to use the confirmatory factor analysis with orthogonal analysis. SPSS was employed to extract the one component for level of interactions with peers subscale. Table 3.57 shows that the actual factor was extracted of one. The rotation sums of squared loadings showed only those factors met the cut-off which criterion. This study had proposed one (1) for level of interaction with peers for adolescent francophone learners in schools in the Western Cape. Factor I accounted for 44.788 % of the variability in all 8 variables.

The researcher used the principal components factors analysis for 4 items and the varimax rotations conducted with one factors explaining 57.052 % of the variance. This study considered varimax the greatest defined to provide the factor structure in the questionnaire for level of interaction with peers. This study assumed that 4 items in this analysis had primary loadings over .5. However, the item “Q1LvIntP” had a strong primary loading of .759 in the factor I. The factor loading matrix for the final solution was represented in Table 3.65.

Table 3.65: Rotated component Matrix

Items	Component
	1
Q1LvIntP	.759
Q2LvIntP	.756
Q4LvIntP	.709
Q3LvIntP	.643

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 3 iterations.

This study examined the validity of peer interaction scale. Their Kaiser Meyer-Olkin (KMO) was .824, Bartlett’s test was 384.543, and significance level was .000. Their factor analysis was conducted by using the principal components factors analysis for 8 items. The varimax rotations lead with three factors explaining 57.052 % of the variance. This study assumed that all items in

this analysis had primary loadings over .5. However, the item “Q1LvIntP” had a strong primary loading of .759 in the factor I, and the item “Q1FacExpr” had a strong primary loading of .882 in the factor II. The factor loading matrix for the final solution was represented in Table 3.58.

Table 3.65: Construct validity model fit of level of interaction with peers for Francophone Adolescent Learners

Model	Kaiser-Meyer-Olkin	Chi-Square χ^2	Degree of freedom (<i>df</i>)	Factor loadings
Factor I	.824	384.543	28	.759

3.17 Conclusion of the chapter

In conclusion, the results in this pilot study have demonstrated that the psychosocial factors scales are reliable and valid to measure psychological factors, social support from teachers, parents, and peers, cultural differences. The results have further confirmed that peer interaction scale provided an acceptable reliability and validity to measure the level of peer interaction amongst francophone adolescent learners in high schools district in the Western Cape. By distinguishing between all these components, the psychological factors have provided a distinct advantage over existing measurement instruments and can provide relevant clarification to future research on the role of emotion regulation, aggressiveness, empathy, and sympathy in adolescent behaviour in the schools. The purpose of this pilot study was to establish the feasibility of recruitment procedures of the participants. Furthermore, it was aimed to assess the psychometric properties of psychosocial factors and peer interaction scales among francophone adolescent learners in high schools in the Western Cape. Cronbach alpha and factor analysis were the main keys to reduce a larger set of variables to a smaller set of factors. The findings of this pilot study provide the evidence and they suggest that the psychosocial factors scale and peer interaction scale are performed in the direction expected. They therefore allow the researcher to validate these instruments in this sample of francophone adolescent learners in the selected high school in the Western Cape. These instruments were found to be a valuable contribution in the process of developing the formulation of the francophone adolescent learners in high schools. This pilot study has added new knowledge about the keys concepts and insights into what individuals actually reflect on while responding to the psychological questionnaires. Psychosocial factors scale and peer interaction scale have demonstrated satisfactory reliability and validity to be

used with the study participants. It is sufficiently discriminated and it has evaluated the psychometrics proprieties and provided the theoretical evidence for the further using in the main study on peer interaction among adolescent francophone learners in schools. The current study demonstrates that the psychosocial factors scale and peer interaction scale possessed good internal consistency and stability.



CHAPTER 4

RESEARCH METHODOLOGY

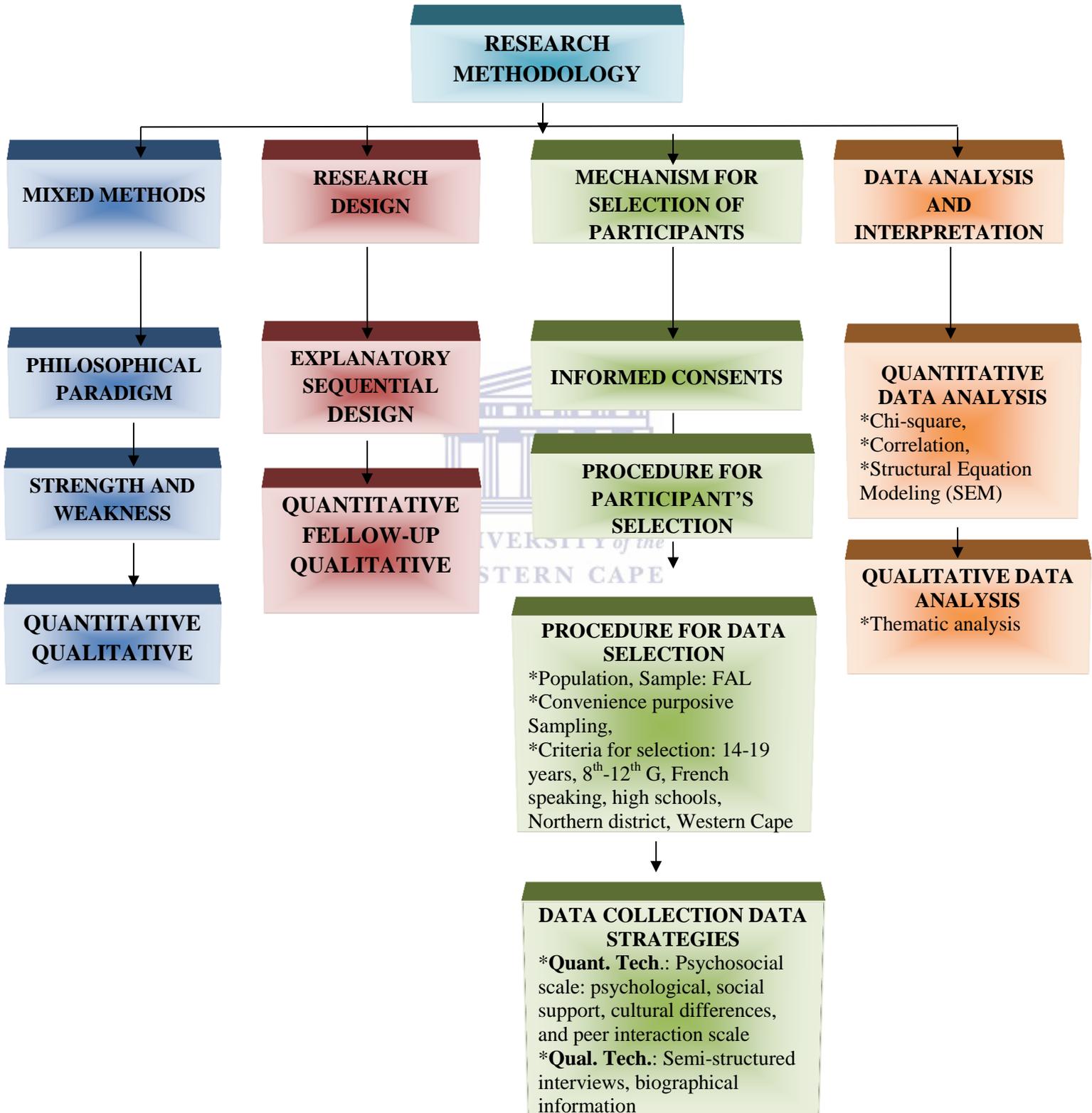
4 Introduction

The previous chapter focused on the pilot study, whose concern was to establish the feasibility of recruitment procedures and the psychometric properties to measure the psychosocial factors scale affecting peer interaction among francophone adolescent learners in high schools in the Western Cape. This chapter presents the research methodology, a mixed methods design with an explanatory sequential research design, the procedures or strategies of data collection and the mechanisms of data analysis and interpretation used in mixed methods, the population, and the sampling and sample size. This chapter also describes the research site, provides the background of the participants and the criteria for their selection considering both quantitative and qualitative methods.



4.1 Overview of the research methodology

Figure 4.1: Overview of the research methodology.



4.2 Research methodology

A better understanding of research methodology process in the study consists about the choice of approaches before starting any practical decision (Crotty, 1998). This choice includes the theory of knowledge, philosophical stance, strategies or plan of action, and the techniques of data collection and data analysis that are used in a research study. In order to make a good choice of a research method, Creswell (2013) states that personal experiences should play a significant role. This means that the researcher needs to be familiar with one of these approaches including quantitative, qualitative or mixed methods which are described in Sections 4.3.1, 4.3.2, and 4.3.3.

4.2.1 Mixed methods

Over many years, mixed methods have become the most popular concept in research (Johnson, Onwuegbuzie & Turner, 2007) and the use of an appropriate definition is critical in the research design and data collection process. However, Creswell and Plano-Clark (2007:5) define mixed methods as a research design with philosophical assumptions as well as a method inquiry. On the other hand, Johnson and Onwuegbuzie (2004:17) define mixed methods as the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study. By the same token, Creswell (2008) refers to mixed methods research as a procedure for collecting, analyzing, and “mixing” both quantitative and qualitative data at some stage of research process within a single study in order to understand a research problem more completely. Mixed methods research is a systematic integration of quantitative and qualitative methods in a single study in order to obtain a complete and deeper comprehensive of a phenomenon (Chen, 2007). The combination of quantitative and qualitative methods is used in examination of research questions, research methods, data collection, and analysis procedures or in inferences (Yin, 2006; Teddlie & Tashakkori, 2009). Methods of different sorts both qualitative and quantitative methods are juxtaposed to provide a more elaborated understanding of the phenomenon of interest as well as to gain greater confidence in the conclusions generated by the evaluation of the study (Johnson, *et al.*, 2007:). Obviously, the fundamental principle of mixed methods research is inclusion and complementarity (Harwell, 2011). In an article entitled “*Towards a definition of mixed methods*

research”, Johnson, *et al.*, (2007) provide clear purposes of mixed methods research that the researcher reproduces below:

- a. To validate and explicate findings from other approaches (quantitative and qualitative), produce more comprehensive, internally consistent, and valid findings,
- b. To provide a better elaborated understanding and greater confidence in conclusions,
- c. To handle threats to validity and gain a fuller and deeper understanding, and
- d. To provide richer/more meaning/more useful answers to research questions of the study (112-113)

The above-mentioned mixed methods research appears to be rich in nature and to provide insights from both quantitative and qualitative approaches to research. It also appears to provide internally consistent findings and to answer the question of validity. Findings are triangulated from the two types of methods, which use different techniques too. Due to these advantages along with the possibility to enable a better and deeper understanding of a research project (Creswell & Clark, 2007), a mixed method approach to research has been adopted by the researcher in this study, where quantitative and qualitative methods complemented (Teddlie & Tashakkori, 2009). These methods helped the researcher to do a complete analysis of psychosocial factors that influence peer interaction among immigrant francophone adolescent learners in high schools in the Western Cape. In addition, it also helped to enhance the understanding of psychosocial factors which affect learners during their interaction with peers in schools in the Western Cape.

A mixed method approach was also chosen because quantitative or qualitative approach by itself is inadequate to develop multiple perspectives and more complete understanding about a research problem or question to the study (Klassen, Creswell, Plano Clark, Smith & Meissner, 2012:379). Mixed methods in research does not replace either quantitative or qualitative methods, but rather allows drawing from the strengths and minimizing the weakness of both in a single study and across studies (Johnson & Onwuegbuzie, 2004). Mixed methods seek elaboration, enhancement, illustration, and clarification of the results from quantitative method with the results from qualitative method (Creene, Caracelli, & Graham, 1989). The results from one method are intended to illustrate and clarify the results from the other. As earlier mentioned

in this section, mixed methods helped triangulate the findings of the present study, achieve greater validity, and obtain mutually corroborated results (Brayman, 2006), enhance the utility of each method, and provide complete information as well as a better understanding of the research problems. In the next section, the researcher describes the philosophical paradigm of mixed methods which includes its conceptualization and the paradigm itself.

4.2.1.1 Conceptualization of the philosophical paradigm of the mixed methods

Over the past few decades, scholars, researchers, and experts in social science research methodology reflected the word *paradigm* as a central concept in research process (Morgan, 2007). This concept has been defined in several different ways, but only definitions related to the objectives to the present study were highlighted. Thus, the researcher limited these definitions according to the objectives of the study for the sake of conciseness.

Direct thinking and action are guided by philosophical assumptions. In mixed methods, philosophical assumptions guide the direction of the data collection and data analysis, and the process of combination of quantitative and qualitative methods in several phases (Creswell, & Clark, 2007). Therefore, a paradigm refers to a system of ideas, or worldview, used by a community of researchers to produce knowledge (Fossey, Harvey, McDermott & Davidson, 2002). Considered as a worldview, the concept of *paradigm* is associated with different philosophical assumptions (Teddlie & Tashakkori, 2009). This word is seen as a “mental model” that consists of “assumptions, understandings, predispositions, and values and beliefs with which all social inquirers approach their work” (Greene, 2007:12).

A research paradigm approach specifies the research culture including a set of general philosophical beliefs and interrelated assumptions about the natural social world (Creswell, 2007). This provides a philosophical and conceptual framework that guides the organized study of that word. Thus Creswell (2007) describes research paradigms as the lens through which researchers view and interpret reality. By the same token, whereas (Ng Ha, 2011:190) views the term “paradigm” as an integrated cluster of substantive concepts, variables, and problems attached with corresponding methodological perspectives and tools. Therefore, a research paradigm is concerned with the epistemology that predetermines the kind of research approach, design, methods and strategies that are suitable for a given inquiry. In this case, the term

paradigm results from epistemology. In mixed methods, the term paradigm thus shaves a major influence on the decision about if the mixture is possible or not desirable. However, there is a belief that quantitative and qualitative approaches to research can possibly be mixed without violation of philosophical principles (Teddlie & Tashakkori, 2003). Furthermore, experts in the field of research community have shared belief that paradigms treat consensus about which questions are more understood and which procedure of research methods are more adopted to answer the questions to the phenomenon, and to the specific community being studied (Morgan, 2007; Tuli, 2011). In the present study, the researcher considers paradigm as a system of beliefs and practices that can influence the selection of the research questions and research methods within the philosophy of knowledge.

4.2.1.2 Paradigm in mixed methods approach

Many researchers are faced with controversies and challenges of boarding of paradigms in mixed methods research procedure. However, Cameron (2011:97) provides a practical framework for addressing aspects of these matters that can guide mixed methods practitioners in research; those are included paradigms, pragmatism, praxis, proficiency, and publishing. According to Hall (2012), the difficulties to choose an appropriate paradigm in mixed methods research remain a concern; however, the choice of an appropriate paradigm constitutes a necessary step as to the use of mixed methods. Thus sufficient understanding of the philosophical bases in research methodology enables researchers to justify the selection of a paradigm in mixed methods research (Bazeley, 2003). For Creswell (2010) paradigm as philosophical and theoretical issues involves the combination of philosophical positions worldviews and paradigms. Greene (2006; 2007) has identified five forms of philosophical paradigms in mixed methods that researchers may adopt to support their research. These comprise a paradigmatic stance, alternative and complementary strengths as well as substantive and dialectic approaches. However, a paradigmatic stance disconnects paradigm from methodology whereas a substantive approach interlinks substantive and paradigmatic matters. On the other hand, an alternative paradigm stance calls for ways of thinking in order to guide mythological issues practice. As for a dialectical stance, it gives intention to new insights that could be derived from differences between the diverse approaches. Finally, the complementary strengths stance is strongly agreed

to the philosophical assumptions of each approach, considering the methodologies as different and requiring appropriate implementation (Teddlie & Tashakkori, 2010).

Teddlie and Tashakkori (2010) also present multiple paradigmatic stances that can draw on more than one paradigm in mixed methods research. These include complementary strengths strategies (Morse, 2003), the dialectical thesis (Greene, 2007) and the multiple paradigms thesis (Creswell & Plano-Clark, 2007), and a single paradigm stance. The later paradigm determines the appropriateness of paradigm choice in mixed methods in this study.

4.2.1.3 Strengths and weaknesses of mixed methods

Mixed methods research presents some strengths and weaknesses in terms of practicability. As this kind of research involves more than one research method, it can be difficult for a single researcher to carry out both qualitative and quantitative research. There is thus a need for a research team whenever two or more approaches are expected to be used concurrently. All these researchers need to have knowledge of the use of multiple methods and deep understanding of how to mix these methods appropriately (Johnson & Onwuegbuzie, 2004).

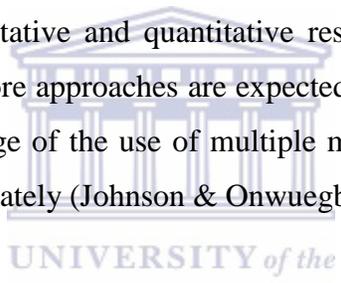


Table 4.1: Strengths and weaknesses of mixed methods (According to Johnson & Onwuegbuzie, 2004)

Benefits and strengths of mixed methods	Weaknesses of mixed methods
Words, pictures, and narrative can be used to add meaning of numbers	It can be difficult for a single researcher to carry out both quantitative and qualitative approaches research , especially when two or more approaches are expected to be done concurrently (it might require a research team)
Numbers can be used to add precision to words, pictures, and narrative Test hypotheses that are constructed before the data are based on random samples of sufficient size	The researcher has to learn about multiple methods and approaches and understand how to appropriately mix them.
Researcher can generate and test a grounded theory	Methodological purists contend that one should always work within either a qualitative or quantitative

	paradigm.
Can answer a broader and more complete range of research questions because the researcher is not confined to a single method or approach	It is more expensive
The specific mixed research designs, a two phase sequential design, the phase one results can be used to develop and inform the purpose and design of the phase two component.	It is more time consuming
The researcher can use the strengths of an additional method to overcome the weaknesses in another method by using in research study (principle of complementarity)	Some of the details of mixed research remain to be fully worked out by research methodologists (problems of paradigm mixing, how to qualitatively analyze quantitative data , how to interpret conflicting results)
Can provide stronger evidence for a conclusion through convergence and corroboration of findings (Principle of triangulation)	
Can add insights and understanding that might be missed when only a single method is used	
Can be used to increase the generalizability of the results	
Quantitative and qualitative research used together produces more complete knowledge necessary to inform theory and practice.	

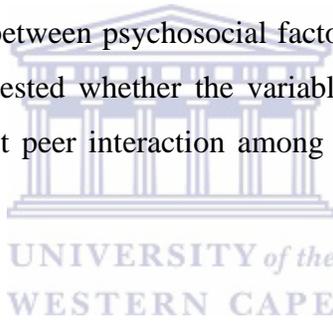
The above Table 1 indicates that mixed method research presents more advantages than disadvantages. Therefore, a professional researcher with sufficient knowledge of mixed methods can make use of it to collect complete, valid, and reliable information about a given topic.

4.2.1.4 Mixed methods as method

Mixed methods as method refers to the process of data collection, data analysis, and the mixture of both quantitative and qualitative data in a study (Creswell, & Clark, 2007). Quantitative and qualitative methods are briefly described in Sections 4.3.3 and 4.3.4. Their distinction and definition depend on the type of data used, the logic used, the type of research, the method of analysis, the approach to explanation, and on the presumed paradigm (Bazeley, 2004).

a. Quantitative method

Quantitative research is the explanation of phenomena by collecting numerical data that are analyzed by the use of mathematically-based methods especially statistics (Aliaga & Gunderson, 2000). Maree and Pietersen (2013:145) highlight that quantitative researcher quires three most important elements: objectivity, numerical data, and generalizability of results. In this study, the researcher tested the relationship between psychosocial factors and peer interactions among the participants. The researcher also tested whether the variables age, gender, school grade level more conditioned or would predict peer interaction among francophone adolescent learners in high schools in the Western Cape.



b. Qualitative method

The primary charge of qualitative research is to capture, understand and represent participants' actions and meanings through and in their own words (Kafle, 2013:234). Qualitative research is the understanding of the meaning people have constructed, that is, how people make sense of their world and the experiences they have in the world (Merriam, 2009:13). Qualitative research is devoted to developing an understanding of human systems such personal histories, gender, natural environment, belief systems, social class, school level, to name but a few (Kafle, 2013). These experiences are collected through an opened-ended, unstructured approach (Daley, 2004). Qualitative research is an inquiry process in which the researcher reports on detailed views of the study in the natural setting of the participants. In the present study, the researcher explored and understood the psychosocial factors and peer interaction among participants in the selected high schools in the Western Cape.

Both quantitative and qualitative researches, that is, mixed methods research, were applied in the current study. Mixed methods research is seen as a procedure for collecting, analyzing, and “mixing” both quantitative and qualitative data at some stage of research process within a single study in order to understand the research problem more completely (Creswell, 2008). Their application was beneficial in the present study for multiple reasons. As stated in 4.3.1, mixed methods approach enabled the researcher to gather complete data that he could not have been able to collect if he had applied either quantitative or qualitative approach alone (Klassen, *et al.*, 2012:379). The use of quantitative and qualitative approaches to research was also useful in that there was complementarity between the two methods (see Section 4.3.1) and in that triangulation of the findings was assured (Brayman, 2006).

In this regard, quantitative and qualitative approaches were relevant as they helped to describe the psychosocial factors affecting peer interactions so as to determine the kind of supports a francophone adolescent learner receives from teachers, parents, and peers. This determined the advantages of peer interaction, and the effects of the absence of a language of instruction on their academic performance in the selected schools in the Western Cape. This study considers mixed methods as a philosophical assumption and a method of inquiry.

4.3 Research design in mixed methods

Based on the purpose of the study, the mixed methods study was meant to develop an understanding of the psychosocial factors among the participants employing an explanatory sequential design.

4.3.1 Explanatory sequential design

This study employed the explanatory sequential model as design in mixed methods in order to capture both distinct quantitative data first and then explain the quantitative results with an in-depth follow-up by qualitative data (Cresswell, Plano, Gutmann, & Hanson, 2003; Klassen, *et al.*, 2012). In the quantitative phase, the researcher collected the data on psychosocial factors scales from the participants. These data included psychological factors, social support, and cultural differences and allowed predicting whether age, gender, and school grade level variables related to peer interaction among francophone adolescent learners in schools in South Africa. As

previously stated in this section, the second phase consisted in qualitative research which was conducted as a follow-up to the quantitative results. Thus quantitative and qualitative researches were not conducted concomitantly. In this second phase, biographical information and face-to-face semi-structured interviews were used in a multiple case study to explore the psychosocial factors affecting peer interactions with 10 participants representing different combinations from the quantitative results in high schools district. The use of these cases was relevant because it sought an in-depth understanding of positive and negative factors which influence peer interaction among participants.

4.4 Mechanism of selection of participants in mixed methods

The selection of the participants was done following the procedure of participants' recruitment, the procedure of data collection and the participants' informed consent.

4.4.1 Informed consents of participants

Data collection generally requires an ethical clearance from one or more institutions. Therefore, before collection of the needed data, the researcher first obtained an ethical clearance from UWC, and another from WCDE. The researcher also asked for and was granted authorization for research from the respective selected schools (see Chapter 3 and Sections 3.3, 4.4 in Chapter 4). As this study involved adolescents, individual informed consents forms were given to and signed by participants and their guardians for authorization to conduct research with the former.

4.4.2 Procedure of participants' recruitment

The participants' recruitment started with an official announcement by the school principals at the morning assemblies. The different principals requested all francophone adolescent learners in their schools to voluntarily participate in this research (see Chapter 3 and 4, Section 3.10.1). The recruitment took around three weeks and the sample size involved 83 participants from the three selected schools (see Chapter 3).

4.4.3 Procedure for data collection in mixed methods

Data collection in mixed methods is an on-going process, Data collection consisted in the identification of the population and the sample population, sampling, and the identification of the

criterion for the selection of participants. It also involved data strategies and mechanisms of data collections. All these components are explained below.

4.4.3.1 Population and sample

In order to prepare for a suitable description of a research, the researcher ideally identified the target population for which is conducted the study, and then selected the sample size of the participants. However, the first phase in this process of data collection was the identification of the research population and the elaboration of a clear definition of this population. Population refers to the totality of objects in the real world in which researchers are interested (Gilbert, 2008). A population does not need to be large to count as a population (Zibran, 2007). However, the total average number of high school learners in the Western Cape is 39993 (WCED, 2014). This population includes all foreign adolescent learners in schools in the Western Cape and the total number of francophone adolescent learners from this population is unknown. From the unknown population of francophone adolescent learners, the researcher selected a sample size in the chosen schools in the northern district in the Western Cape.

A sample is a smaller group or subset of the total population carefully selected (Cohen, Manion, & Morrison, 2010). A sample should be drawn and have the same characteristics of the broader population from which it is selected (Gilbert, 2008). In the context of this study, the researcher chose a sample size consisting of ten (10) participants, five (5) of which were girls and the other five (5) boys willing to participate. These participants' age ranged between 14 and 19 years old.

4.4.3.2 Procedure of sampling techniques

The understanding of a sampling technique selection procedure is done in research methodology and of the use of suited sampling methods is beneficial for a researcher. The selection of a sample from a defined/target population obligates a careful construction of a sampling frame (Ross, 2005). This helps the researcher to “take hold” of the target population without any need to worry about the contamination with incorrect entries or with elements associated with the excluded population (Ross, 2005). The procedure for the selection of sampling techniques in this study involved a non-probability sampling used in both quantitative and qualitative components.

a. Quantitative and qualitative sampling

The non-probability sampling included convenience and purposive strategies was used for quantitative and qualitative sampling to select participants. Its benefit is based on its convenient character for researcher to gather a sample that does not require representativeness of population. It reduced research costs, gave research more efficient and great flexibility of findings, it based on the subjective judgments (Latham, 2007). With regarding to the objective to the study, the researcher chose a non-probability sampling or non-random sampling in order to determine factors affecting peer interaction among francophone adolescent learners at schools. This depended on the purpose, nature, and type of research, thus being the representative subjective.

b. Convenience sampling

The term convenience sampling is used to refer a sample that is selected basically on the availability of the participants for the study or convenience to the researcher (Ross, 2005). These conveniences are accidentally caused by many elements happening during the process such special or administrative, near to where the research is conducted for data collection. The critics argued on the use of judgment sampling and revealed that it is likely to access a substantial of bias into estimated population parameters and could not give the accuracy of results (Ross, 2005). Since, the researcher lives within the same sample environment; it is assumed that access to sample can be facilitated easier. For economic reason, this sampling was benefit because it economized time and money.

c. Purposive sampling

According to Latham (2007), the purposive or judgment sampling consists of selecting sample as it is judged in order to represent a similar characteristic of participants for the study. In addition, it considered as type of sampling that particular setting, persons, or events are deliberately selected for the important information they can provide that cannot be gotten as well from other choices (see Max-well, 1997 in Teddlie, & Yu, 2007). The quality of the sample selected is based on the researcher's own knowledge of the population, its elements, and the nature of research objectives (Babbie, 1990; Frey, Botan, & Kreps, 2000; Ross, 2005).

Since the total number of francophone adolescent learners is not exactly known in the schools in the Western Cape, careful sampling is necessary. A quantitative sample size of eighty three (83)

participants were selected through convenience and purposeful sampling between 14 to 19 years who are known willing to participate, and ten (10) participants for qualitative phase. These samples size were taken from areas such as Parow, Elsies River, Vasco, and Bellville areas in the northern district schools.

4.4.3.3 Criteria for selection of participants

The criterion of participant's selection is inclusive; this study selected participants including all francophone adolescent learners in the selected high schools in the Metro North district in the Western Cape Province. The researcher predetermined the criteria of participant's selection in two phases: quantitative and qualitative.

4.4.3.3.1 Quantitative phase

During this phase, the researcher obtained an initial sample of eighty three (N= 83) participants (females: 52 girls and males: 31 boys) from high schools selected in Metro North district where there is a high rate of foreign nationals. The following is established as criteria:

- Participants should be volunteers in high schools selected in the Western Cape,
- Participants should be non-natives of South Africa (foreigner),
- Participants should be enrolled in a public high schools in the Western Cape,
- Participants should originate from francophone (or French-speaking, French as home language) countries in Africa,
- Participants should be adolescent aged ranged from 14 to 19 years old.

Once the quantitative data was collected, the researcher captured data in accordance with statistical principles using a computer system (SPSS, Version 23).

4.4.3.3.2 Qualitative phase

Qualitative component is the second phase that involved the selection of ten (10) participants (females: 5 girls and males: 5 boys) from the initial sample and selected by purposive sampling according to the following criteria:

- Participants should be living in or around the areas mentioned above (e.g. Parow, Elsies River, Vasco, Bellville and Maitland) as face to face interviews is employed through home visits (schools),
- Participants should voluntarily indicate during the interview on the consent form if they are available to participate in the second phase of the study.
- Participants who are curious and open to communicate with the researcher

4.4.4 Mechanisms of data collection

After the researcher had obtained an ethical clearance from the research committee of the University of the Western Cape as well as from Western Department of Education, he conducted his study in three high schools located in the Western Cape. In each of these selected schools, a formal announcement preparing learners for their participation in the present study was given by the principal via the secretary. As the learners had been informed about the study, the researcher first met them and informed them about the need to contribute to knowledge in the field of educational psychology and the implications of participating in the research. The researcher then selected the participants according to criteria predetermined for this research in the initial quantitative sample, which was followed by the qualitative stage.

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4.4.5 Data collection strategies

In this study, a mixed method approach is used in the collection of data. This involved two separate phases including quantitative and qualitative. It began with a quantitative phase, and then follow-up with an in-depth qualitative phase which is analyzed and interpreted. The researcher collected both numeric information through questionnaires and text information through semi-structured interviews and interviews face to face. The concern of this information will be linked with peer interactions among francophone adolescent learners affected by psychosocial factors in the selected high schools in the Western Cape.

4.4.5.1 Quantitative techniques

In order to collect quantitative data, the researcher distributed the research instruments to 83 participants by convenience and purposeful strategies. Given francophone adolescent learners, peer interaction can vary on many different levels with and across age. In this study, quantitative

data consisted of collecting closed-ended information in which the researcher employs scale Likert instruments to measure different sorts of psychosocial factors that affect peer interactions among francophone adolescent learners in high schools. These are included psychological factors scale, social support scale from teachers, parents, and peers, and cultural differences scale, and level of interaction with peers scale.

a. Psychological Factors Scale

The researcher utilized the psychological factors questionnaire and consisted of eighteen (19) items with a 5 Likert scale (*1=totally disagree to 5= totally agree*) that assessed 4 variables; including emotional regulation, aggressiveness, empathy, and sympathy. These items related to measure emotional regulation (*I feel comfortable when interacting with other learners at school*). Items addressed to the aggressive behaviours (*I feel anger to other learners who rolled their eyes at me in class, I reprimand them when they tell me slap*), Items measured empathy (*I feel accepted by other learners (peer) when interacting with them at school*) and items addressed sympathy (*I feel pity towards other learners when they are unhappy in school*) (see Appendix 12). In this questionnaire, participants were requested to give their views on the suggested statements that can influence peer interaction and behaviours in socially acceptance ways and in normal situation. The reliability analysis for psychological factors subscale was considered with the internal consistency scores (Coefficient Cronbach's alpha) of each component were acceptable, ranging from .71 to .79. The confirmatory factor analysis revealed three factors explaining 55.02 % of the variance (emotional regulation, aggressiveness, empathy, and sympathy).

b. Social Support Scale (from teachers, parents, and peers)

The researcher in this study employed social support questionnaire contained 45 items with 5 Likert scale (*1= Very much disagree 5=Very much agree*) (see Appendix 14). The social support from teacher's questionnaire aimed (a) to measure affective support of learners from their teachers, (b) to address the informational supports they receive from their teachers and (c) to address instrumental support from they receive from teachers. The social support from parent's questionnaire aims to measure (a) the affective support participants get from their parents, (b) the informational support they get from their parents and (c) the instrumental support they get from

their parents. The social support from classmate / peers questionnaire aimed to measure (a) affective support participants get from their peers, (b) informational support they get from their peers; and (c) the instrumental support they get from their peers. The score for all items per subscale are summed to form scale scores. The internal consistency scores for the social support subscale with 45 items were very reliable and ranged from 61 to 86. After rotation, fifteen (15) items sufficiently showed to contribute in the structure of social support from teacher, fourteen (14) items for parents, and fifteen (15) for peers subscale. Furthermore, the factor analysis evidence showed three factors structures for each social support subscale (teachers, parents, and peers), which are respectively explained 53.438 % of the variance for both teachers, peers, and 63.811 % for parents.

c. Cultural Differences Scale

Cultural differences questionnaires concerning 17 items with 5 Likert scale (*1 = Very much disagree 5 = Very much agree*) were used (*see Appendix 15*). 6 items measured knowledge of cultures, for example, “My culture allows me to interact with other learners (peers) from different cultures at school”. There are 5 items to address motivational cultures, for example, “I enjoy interacting with other learners (peers) from different cultures in school” There are 6 items to measure behavioural cultures, for example, “I change my verbal accent when interacting with other learners (peers) from different cultures at school”. The reliability analysis for cultural differences subscale considered with the internal consistency scores (α) of each component were acceptable, ranging from .69 to .81. Seventeen (17) items adequately indicated to contribute in the structure of cultural differences subscale. The confirmatory factor analysis evidence suggested three factors explaining 54.718 % of the variance (knowledge of culture, motivational culture, and behavioural culture).

d. Peers Interaction Scale

The level of peer interaction constitutes of 4 items to measure the degree of interaction with peers among francophone adolescent learners in schools, for example, “*Other learners (peers) stand close proximity to me when interacting at school*” (*see Appendix 16*). The reliability analysis for level of peer interaction subscale reflected with the internal consistency scores (α) of each variable was acceptable, ranging from .71 to .81. The confirmatory factor analysis

suggested three factors explaining 54.718 % of the variance (knowledge of culture, motivational culture, and behavioural culture).

4.4.5.2 Qualitative techniques

After gathering the quantitative data, the researcher completed his research using the qualitative approach to research. The information was collected from ten (10) participants through biographical information and face-to-face unstructured interviews by asking close-ended and open-ended questions.

a. Biographical information

In qualitative approach, the biographical information consisted of both open and closed-ended questions (*see Appendix 6*). Information relating to demography (age, sex, current school level, residential area, country of origin, number of occupants at home, number of close friend at school, fluent language, duration in South Africa, guardian and parental occupations, life experience, hobbies, and future interested, and career) was collected.

b. Face-to-face semi-structured interviews

As mentioned in Section 4.5.4.2, the researcher selected ten (10) participants from the study population for follow-up interviews after he had finished collecting quantitative data. The researcher employed face-to-face interviews as a qualitative technique. The interviews consisted of open-ended questions that focused on participants' detailed views of psychological factors and peer interactions among francophone adolescent learners in the selected high schools in the Western Cape (*See Appendix 17*). The use of open-ended questions was beneficial in that the researcher could probe on participants' answers and ask additional questions in order to obtain clearer and richer insights. The researcher made sure that there was a logical sequence in his ways of interrogating the participants and that the interview was taking place in an appropriate and conducive setting that would allow participants to provide accurate responses (Phellas, Bloch, & Seale, 2011).

4.5 Data analysis and interpretation in mixed methods research

Data analysis and interpretation in the present mixed methods research adopted an evaluation of quantitative and qualitative data separately, but there was an integration of data from both approaches during the interpretation (Creene, *et al*, 1989). Put differently, the researcher analyzed quantitative and qualitative data separately, and then integrated the interpretation of mixed methods.

4.5.1 Data analysis in mixed methods approach

Data analysis in the present mixed methods research consisted of evaluating how the qualitative data helped to explain quantitative data. The researcher connected the relationship between psychosocial factors, peer interactions, gender and age to the follow-up of the advantages of peer interactions among francophone adolescent learners in the selected high schools in the Western Cape. This started with the initial quantitative analysis, descriptive statistics, and inferential analyses, which were all connected with the follow-up qualitative thematic analysis. The different stages of data analysis are described below.

4.5.1.1 Initial quantitative data analysis

The initial analysis focused on data screening and cleaning as explained below.

4.5.1.1.1 Data screening and cleaning

The presence of incorrect or inconsistent data can significantly change the results of analyses in research (Hellerstein, 2008). Therefore, data screening in quantitative approach is essential, because it helps in the isolation of strange data and allows the data to be adjusted in advance for further analysis (Fitrianto & Midi, 2011:1046). In the present study, data screening involved capturing the data in excel Microsoft word and using statistical Package for the Social Sciences (SPSS 23). This included data cleaning, checking for sources of errors and accuracy, treating missing data, and evaluating the underlying assumptions.

a. Data cleaning

The need for data cleaning also known as data cleansing is significantly increased in quantitative data analysis approach. Data cleaning consists in detecting and removing errors and

inconsistencies from data in order to improve the quality of data (Rahm & Do, 2000). Data cleaning thus aims to preserve the meaningful data while removing all unnecessary elements that can inhibit the ability to run the analysis effectively in datasets (Weiss & Townsend, 2005). In the present study, the researcher removed any unwanted components that could affect the quality of statistic results when it is possible to correct errors in datasets through a manual inspection of data by a double entry and verification of data entry.

b. Checking for sources of errors and accuracy

It is useful to understand the sources of errors in data when preparing for data analysis procedures (Hellerstein, 2008). The understanding of the sources of data errors allows detecting, and ameliorating errors and data quality. In order to verify whether data values in the present study were correct or at very least conform to some sets of rules in data processing, data cleaning was evaluated by the identifying and possibly rectifying errors in datasets. The researcher used the visualization systems statistical properties including distributions and correlations of variables in order to process to the data analysis.

c. Outlier detection and extern values

The outlier direction is a useful step of data screening for data validation, a process of data analysis. The outlier detection can occur in both univariate and multivariate situations. Detection of multivariate outliers was used with Mahalanobis distance, a distance of a case from the centroid of the remaining cases where the centroid is the point created by the means of all the variables (Tabachnick & Fidell, 2001). In the present study, the researcher used the simplest and most reasonable approach which is the univariate outlier. The univariate outlier indicates whether outliers are present and standardized. The detection of univariate outliers was accomplished due to a visual inspection of data and an examination of the frequency distribution, the obtained histogram, and unusual values.

d. Treating missing data

It is difficult to process a statistical analysis on data where one or more values are missing (Little & Rubin, 2014). Therefore, it is common to recode the value of missing data when an error is detected on a variable and its correct value cannot be determine in processing data (Francis

2005:229). Prior to any analysis approach, missing data need to be dealt with and the reason why and how it occurred in the data set should be determined (de Jonge & van der Loo, 2013). Scholars categorized three different assumptions about missing data mechanisms assigning them to the consequences of the analyst's strategies used to address the missing data (Francis, 2005; Vatanen, 2012, Soley-Bori, 2013; Little & Rubin, 2014). These are Missing Not At Random (MNAR), Missing At Random (MAR), and Missing Completely At Random (MCAR). MNAR indicated that the probability of missing values related to the variable missing in the data set. MAR reported that the probability of missing data on Y depended on X, but not on Y. With regards to the MCAR, the probability of missing data on Y neither depended on the values of Y itself nor on the values of any other variable (X) in the data set.

However, literature on the techniques for analyzing missing data and their application on the analysis strategy that can produce at least biased estimates in results have been reviewed (Schafer & Graham, 2002; Soley-Bori, 2013; Zhou & Lim, 2014; Vatanen, 2012). These performed in two functions including conventional methods and advanced methods. Based on the purpose of this study, the researcher only focused on the conventional function for the treatment of missing data. The conventional function included deletion, imputation and model-based methods (Soley-Bori, 2013). Deletion methods involve the estimation means, standard deviations, covariances, and correlations for divers missing methods including listwise, pairwise, regression or Expectation-Maximum (EM). The imputation methods consist in using regression and providing more accurate results in the analysis. The model-based methods deal with the use of Maximum-Likelihood estimation, and multiple imputations.

Considering the statistical analysis of missing values, it is relatively safe to consider the values of missing data at random mechanism and the listwise deletion is required as an appropriate method for missing analysis when missing values are less than 5% of the total number of cases ($N < 5$) (Francis, 2005: 232; SPSS, 2007). This simply consists in excluding any missing variables data from all the analysis processes. This technique is beneficial due to the simplicity and comparability of the characters across the analysis. In this study, the researcher used a conventional method, particularly frequency statistics to examine the missing data, that is, to determine the amount of missing value. In addition, the casewise or listwise deletion method was used to eliminate all records with missing values on any variable.

4.5.1.2 Testing the statistical hypotheses

Testing a statistic hypothesis is an assertion of conjecture concerning one or more populations. The main objective of the hypothesis testing is to choose the value parameter between two competing variables. With reference to the null hypothesis, the true value of the population parameters might be estimated when it is generally unknown (Wilcox, 2012). As for the alternative hypothesis, it might be true when the null hypothesis is false (Wilcox, 2012). Scholars have reported that it is important to decide about the testing of the statistical hypothesis process before starting the analysis of the research data (Piegorisch, 2002; Hogg & Tanis, 2001; Zibran, 2007; Dahiru, 2008; Wilcox, 2012). For instance, this study used Chi-square (χ^2) as a non-parametric statistical test to test the significance of the relationship between independent variables (age, gender, and grade level) and dependent variables (psychosocial factors such as psychological factors, social support from teachers, parents, and peers, cultural differences, and level of peer interactions).

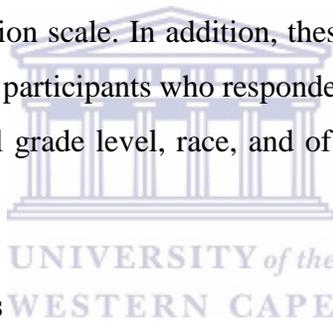
The researcher started with a standard procedure of a significant test of correlation that consisted of two possibilities: null hypothesis (H_0) and alternative hypothesis (H_1). The H_0 states that the population correlation parameter (ρ) is zero ($\rho = 0$). This assumes that the null hypothesis is rejected when the chance is small and is true when strong evidence to the contrary is revealed (Wilcox, 2012). However, as the decisions are based on probabilities, there is a possibility to make errors. There are two types of errors: typical values chosen for (alpha: α) are .05 or .01 and the null hypothesis is not true. In Type 1, there is 5 % chance that the null hypothesis is true and H_0 will erroneously be rejected. The Type 2, errors reports that the null hypothesis is not true. Alternative hypothesis (H_1) reports that the population correlation parameter (ρ) is not zero. As for the statistical hypothesis, it might reject the null hypothesis as well as it might fail to reject it (Furr & Furr, 2004). The Chi-square (χ^2) is used to determine whether variables are statistically independent or associated (Michael, 2001).

In the present study, the scoring tools were followed when testing the hypothesis. The assumptions required that both independent and dependent variables be categorical data. In a Likert scale of 5, values were summarized into two categories: totally agree and agree as category 1, and neutral, disagree and totally disagree as category 2. Emotion regulation was

divided in stable emotions and instable emotions, aggression into aggressive and non-aggressive emotions, empathy into empathetic and not empathetic emotions, and sympathy into sympathetic and not sympathetic emotions, level of peer interaction into positive and negative peer interaction.

4.5.1.3 Descriptive statistics analyses

Descriptive statistics were preliminarily assessed to analyze datasets for all variables. These included frequencies distributions and histograms in order to determine the possible assumptions that are sufficiently satisfied and assess the treatment of missing data. Descriptive statistics helped in the characterization of the sample in the distribution. In this study, descriptive statistics analysis consisted in calculating the means (*M*), standard deviations (*SD*), ranges of scores (*Max*, *Min*) of psychological factors scale, social support for teachers, parents and peers scales, cultural differences scale, and peer interaction scale. In addition, these descriptive statistics involved the computation of the total number of participants who responded the questions in the current study, age range, gender category, school grade level, race, and of which high school the participants attended.



4.5.1.4 Inferential analyses

The inferential analyses concerned chi-square (χ^2) (see 4.5.1.2), correlations, and Structural Equation Modeling (SEM).

4.5.1.4.1 Correlations

The study used the Spearman's rank-order correlation and Pearson's correlation in SPSS to explore the relationship among demographic variables (age, gender, and grade level), psychological factors (emotional regulation, aggressiveness, empathy, and sympathy), social support (from teachers, parents, and peers), cultural differences (knowledge of cultures, motivational cultures, behavioural cultures), and level of peer interaction among of francophone adolescent learners in the selected high schools in the Western Cape. The probability of significance (*sign.*) of these correlations was examined to establish the relationship between categorical variables and the Chi-Squared (χ^2) to determine the independence of variables. However, statisticians recommend the determination and the combination of *p*-values and level

of confidence (Piegorisch, 2002; Hogg & Tanis, 2001; Dahiru, 2008). *P*-value is the probability that consists in measuring how likely it is at any observed difference between groups due to chance (Dahiru, 2008). In line with this, Piegorisch (2002) purely simplifies *p*-value to the acceptance or acceptance of null hypothesis, in order to assess its strength of evidence (Dahiru, 2008). Dahiru (2008) reports some statistical benefits for using *p*-value and confidence intervals. The level of confidence is more emphasized on the relevance of estimation over hypothesis testing in that it provides a measure that is more reliable or precise in estimation. This level can be used as a significance test related to the simple rule that if ninety five percent (95 %) level of confidence does not the null value, this shows that the null hypothesis is rejected at .05 levels. The *p*-value can take any values; the closer to zero (0) indicates that the observed difference is unlikely to be due to chance, while the closer to one (1) shows no difference between groups other than due to chance. The confidence intervals at ninety five percent (95 %) level of confidence and their interpretation indicate that the smaller *p*-value, the lower the chance of getting a difference as big as the one observed. This shows that null hypothesis is true and that there is a stronger evidence against the null hypothesis. Thus the greater the *p*-value indicated weak evidence against the null hypothesis (Levine, Weber, Hullett, Park, & Lindsey, 2008). The null hypothesis assumed that gender, age and, grade level of participants will not differ significantly ($\alpha = .05$) from peer interactions as measured by the level of peer interaction scale. For instance, the researcher practically performed the analysis into SPSS by selecting dependent variables in rows and independent variables in columns and then continued the procedure. As a result, a cross tabulation and Chi-square (χ^2) were conducted to test the level of significance of connection between variables of biographical forms, psychosocial factors scale and level of peer interaction scale. The assumption for hypothesis test showed that the expected frequencies for each cell are greater than or equal to 5 ($p > 5$). According to Garson (2006), the relationship between variable is determined by three asterisks (***) on the .001 level, two asterisks (**) indicates a *p*-value for the .01 level (10%), and one asterisk (*) would indicate a *p*-value for the .05 level (5%). This study used only the covariance to find the inter-correlation between variables.

4.5.1.4.2 Structural Equation Modeling (SEM)

Structural Equation Modeling (SEM) is a statistical modeling technique that originates across different disciplines. It was considered as simultaneous equation modeling in economics (Haavelmo, 1943; Koopmans, 1953; Wold, 1954), as path modeling in biology (Wright, 1934), as regression analysis in human genetics (Galton, 1889), as method of maximum Likelihood estimation in statistics (Fisher, 1921; Lawley, 1940), and as factors analysis in psychology (Spearman, 1904; Thurstone, 1935, 1947). SEM is a sophisticated technique that allows to test various models regarding the interrelationship among a set of variables (Pallant, 2005). This is referred to as a second generation multivariate technique. Since SEM has roots in path model, it was relevant to start SEM analysis by drawing a path diagram. This consists of boxes and circles which are represented by rectangle or square boxes and latent factors by circle or ellipse (Hox & Bechger, 1998). Boxes are used to describe observed variables while circles represent latent variables. The single-headed arrow between boxes indicates a causal relationship between variables whereas a double-headed arrow between boxes shows a non-causal relationship between variables. The arrows that originate from a box indicate residual variables.

Scholars have demonstrated that the application of SEM can be used across different disciplines including medicine, economics (Sahin, Todiras, Nijkamp, Neuts, & Behrens, 2012; Violato, & Hecker, 2007; Beran & Violato, 2010). In behavioural sciences, SEM is applied to provide a general and convenient framework for statistical analysis such as confirmatory factors analysis, regression analysis, path analysis, discriminant analysis and canonical correlation (Hox & Bechger, 1998; Gonçalves, Correa, Destro, Souza, & Sobrinho, 2003). The SEM had been chosen for numerous reasons in this study. It was essential to apply SEM, because, it is very flexible to hand databases with non-normality distributed variables and incomplete data (Blunch, 2012). It helps to provide the results where measurement error and uncertain causal conditions are frequently encountered especially in behavioural sciences (Nachtigall, Kroehne, Funke, & Steyer, 2003). It also helps to identify direct and indirect relationships between variables (Walker & Madden, 2008). With regard to multiple regressions, it permits to evaluate the relevance of each of the independent variables in the model and test the overall fit of the model to the data. But it often appears complicated and challenging to understand it.

a. Absolute fit indices

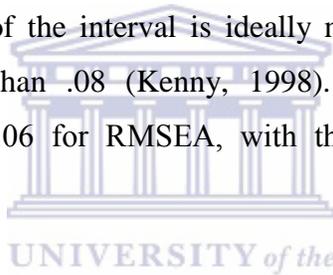
It is essential to apply the absolute fit indices in behavioural sciences (Newsom, 2012). These indices help to determine how well a model fits the sample dataset and demonstrates which proposed model has the most superior fit (Newsom, 2012). According to Schermelleh-Engel, Moosbrugger and Müller (2003), the Model fit is a statistical technique that determines the degree to which the structural equation model fits the sample data. However, there are no established covenants that constitute a suitable fit, but there is rather a general guideline that can help to identify the model fit and establish the iterative estimation procedure converges. Thus, in order to avoid errors during the assessment model fit and the interpretative value, this study firstly suggested the use of Chi-Square (χ^2) because it is the original fit index for a structural model and as it is based on the most other fit indices reported in all SEM outcomes.

The use of χ^2 is affected with limitations to the major absolute fit index. However, the most important one is the fact that this index is sensitive to the sample size, model size, and distribution variables (Newsom, 2012). Since the current study involved an empirical character, however, χ^2 was reported as a model fitted, but it was associated with other varieties of absolute fit indices to measure global fitness in the SEM.

The second model consisted of Goodness-of-Fit Indices (GFI). This model evaluated the proportion of variance accounting the estimated population covariance in order to show how the closer model replicates the observed covariance matrix (Hooper, Coughlan & Mullen, 2008). The statistics value of GFI also ranged from zero (0 indicated poor fit) to one (1 indicated perfect fit). Hu and Bentler (1995) specify that when the sampling distributions of GFI are unknown with the exception of χ^2 , the critical values for fitness indices are not defined. Therefore, the reasonable agreement for the acceptance fit was proposed to .90, while the higher cut-off of .95 should be suggestive of a good fit (Miles & Shevlin, 1998; Hu & Bentler, 1999). However, a GFI value equal to or greater than .90 ($\geq .90$) was considered in this study as an adequate indication of absolute model fit.

Since Chi-Square (χ^2) and GFI index affect the model fit with the sensitivity of small sample bias, fit index to model misspecification, estimation method effect, and to the violation of normality and dependence assumption (Hu, & Bentler, 1998), it is therefore important to use an additional fit index that less affects the sample size factor. This is the Root Mean Square Error of

Approximation (RMSEA). The third absolute fit index was developed by Steiger and Lind in 1980 in order to assess how the model fitted approximately well in the population (Kaplan, 2000), but this model optimally chooses the model with the lesser number of parameters (Hooper, *et al.*, 2008). The covenant of the cut-off point for RMSEA depended on authors. However, Browne and Cudeck (1993) and Steiger (1990) consider a “*close fit*” when RMSEA value is less than or equal to .050 ($\leq .05$), but the statistics value of RMSEA was considerably decreased by MacCallum, Browne and Sugawara (1996), who suggested a “*fair indication fit*” as a value ranges from .05 to .10, a “*poor fit*” for a value above .10, and a “*mediocre fit*” when a value is between .08 and .10. Thus, depending on the sample size, the number of observed variables in the model, and conditional on the value of CFI, a value below of .08 or .07 can be perfect (Hair, Black, Babin, Anderson & Tatham, 2006:753). Furthermore, the value of .06 indicates a “*good fit*” (Hu & Bentler, 1999). Obviously, the lower values the better fit (RMSEA). The lower guarantee of the interval is ideally near to zero (0) whereas the upper guarantee has a value smaller than .08 (Kenny, 1998). Consequently, the current study considered the cut-off value of .06 for RMSEA, with the values higher than .07 ($\leq .07$) demonstrating suboptimal fit.



The fourth absolute fit index by Sörbom and Jöreskog in 1981 concerns Root Mean Square residual (RMR) and standardized Root Mean Square Residual (SRMR). This index is perceived as an overall badness-of-fit measure, which focuses on the fitted residuals (Schermelleh-Engel, *et al.*, 2003) as they express the remaining discrepancies between the covariance matrices once the parameters of the model are estimated. These parameters are the square root of the difference between the residuals of the sample covariance matrix and the hypothesized covariance model. The RMR value close to zero suggests a good fit since the range for the RMR value is calculated based on the scales of each indicator. However, it is difficult to interpret whether a given RMR value shows good or bad fit within a questionnaire that contains item varying level such as 5 or 7 Likert scale (Kline, 2005). Therefore, this problem was resolved using the SRMR. SRMR takes values ranging from zero (0) to one (1) and this indicates that the lower the SRMR, the better the model is well-fitted (Hooper, *et al.*, 2008; Brown, 2006; Diamantopoulos & Siguaw, 2000). If the SRMR value cut-off is .08, the model fit is acceptable while an SRMR of 0 demonstrates perfect fit (Hu & Bentler, 1998). As it can be seen, the SRMR value is lower when there a high

number of parameters in the model and in the models related to large sample sizes (Hooper, *et al.*, 2008).

b. Recommendations of adequate selection of Model Fit Indices and Acceptable Fit for interpretation

The criteria form for an adequate selection of Model Fit Indices and acceptable fit for interpretation are presented in Table 4.2.

Table 4.2: Recommendations of model fit indices and acceptable fit interpretation (According to Schreiber, *et al.*, 2006).

Type of fit measure	Model fit Indices	Excepted values cut-off	
		Good fit	Acceptable fit
Absolute fit	χ^2 (CMIN)	$0 \leq \chi^2 \leq 2 df$	$2 df < \chi^2 \leq 3 df$
	P value	$.05 < p \leq 1.00$	$.01 \leq p \leq .05$
	χ^2/df	$0 \leq \chi^2/df \leq 2$	$2 < \chi^2/df \leq 3$
	RMSEA	$0 \leq RMSEA \leq .05$	$.05 < RMSEA \leq .08$
	p-value for test of close fit (RMSEA <.05)	$.10 < p \leq 1.00$	$.05 \leq p \leq .10$
	Confidence interval (CI)	Close to RMSEA, left boundary of CI = .00	Close to RMSEA
Incremental fit	SRMR	$0 \leq SRMR \leq .05$	$.05 < SRMR \leq .10$
	NFI	$.95 \leq NFI \leq 1.00$	$.90 \leq NFI \leq .95$
	NNFI	$.97 \leq NNFI \leq 1.00$	$.95 \leq NNFI \leq .97$
	CFI	$.97 \leq CFI \leq 1.00$	$.95 \leq CFI \leq .97$
	GFI	$.95 \leq GFI \leq 1.00$	$.90 \leq GFI \leq .95$
	AGFI	$.90 \leq AGFI \leq 1.00$	$.85 \leq AGFI \leq .90$
		Close to GFI	Close to GFI

(see Schreiber, Nora, Stage, Barlow, & King, 2006).

4.1.1.1 Follow-up of qualitative data analysis

Before the conceptualization of data analysis in qualitative research, it is relevant to explicit what qualitative data is. Qualitative data involves participants' meanings (Ruona, 2009) generated through language and actions or mass of words that mostly resulted from interviews transcribed from tape to paper, observations, recorded listening tape (O'Connor & Gibson, 2003; Lacy & Luff, 2012). However, Denzin and Lincoln (2000:19) argue that "there are no objective observations" in qualitative research, but "only observations socially-situated in the world of and between the observer and observed". On the other hand, Leech and Onwuegbuzie (2007) and

Chambers (2000) provide some positive characteristics of qualitative data which can facilitate psychologists to increase their understanding of the phenomenon and study how cultural meanings might be exchanged and negotiated as a result of intercultural exchange. These characteristics also help psychologists to attempt to find solutions to well-being problems including emotions, aggressiveness, sympathy, empathy, etc. By the same token, qualitative data is important to improve quantitative research designs and four rationales (participant enrichment, instrument fidelity, treatment integrity, and significance enhancement) were addressed (Collins, Onwuegbuzie, & Sutton, 2007).

Data analysis is the process of organising and sorting data in light in order to increase sophisticated judgements and interpretation (Glesne & Peshkin, 1992 in Kafle, 2013: 236). Data analysis is a systematic search for meanings (Leech & Onwuegbuzie, 2007). Qualitative data analyses differ in priority depending on researcher's perspective to conduct an analysis, on participants in the research, and on form and philosophical assumptions to understand the phenomenon. In addition, its analyses impact on the conceptual and theoretical framework of the research. This process demands great interactivity and reflexivity in order to understand and interpret a phenomenon (Stake, 1995, Ritchie, Spencer, & O'Connor, 2003; Kafle, 2013) as well as a creative and intellectual engagement of interpretation. However, participants offer rich, vivid words and concrete descriptions representing their social realities that they connect to their worlds and communities. Data analysis is done concomitantly with data collection, but after data collection has been concluded. In the current study, the researcher proceeded to evaluate data both analytical and logical reasoning, and examined each component of the data provided (Bradley, Curry & Devers, 2007).

Hermeneutic views highlight that best interpretations of qualitative data analysis focus on the subjective experience of individual and groups (Kafle, 2013). The subjective experience attempts to reveal the world the fine stories that an individual or groups experienced. The objective of qualitative data analysis is to understand the real thought and feelings of participants in certain situation or at certain point of time (Gill, Stewart, Treasure, & Chadwick, 2008). In qualitative approach, data analysis includes coding the data, dividing the text into small units, assigning a label to each unit, and then grouping into themes (Creswell & Plano Clark, 2011:207).

Qualitative analysis helps in making sense of data in terms of participant's definitions of the situation, noting patterns, themes, categories, and regularities.

The present study described themes such as work together, sharing ideas and answers, warmth in class, provided help, advice, support, and feeling of belonging in school that represent advantages of peer interactions. Furthermore, themes included peer rejection and peer bullying in school were considered as disadvantages of peers interactions. This study used the thematic analysis as framework to analyse qualitative data. The thematic analysis is developed in details in the next section.

4.5.1.4.3 Thematic analysis

Thematic analysis should be considered as essential method for qualitative analysis (Boyatzis, 1998; Attride-Stirling, 2001; Braun & Clarke, 2006). Thematic analysis is defined as a tool for identifying, analysing, and reporting themes within data and it allow interpreting different aspects of research (Braun & Clarke, 2006:79). The use of thematic analysis in qualitative studies is beneficial for numerous reasons (Braun & Clarke, 2006; Alhojailan, 2012). Firstly, thematic analysis is flexible in nature in that it can use both inductive and deductive approaches to data analysis and data interpretation. In the inductive process, their abstracts and concepts are built from the data believing that themes identified closely emerge from the inspection of accumulated cases (Kafle, 2013:238). Secondly, thematic analysis allows providing the opportunity to the researcher to code, and categorising the data into different themes and presenting a thematic map of data. It is a useful research technique that can potentially provide rich and deep detailed findings from a complex account of data. Finally, thematic analysis helps to associate the analysis of themes' frequency with one of the whole content. It demonstrates rigor in the process.

In the present study, the thematic analysis allowed the researcher to be familiar with the data and gain an overview of qualitative data by reading and re-reading the data since the identification of themes involved careful reading (Fereday & Muir-Cochrane, 2006) and re-reading of the data (see Rice & Ezzy, 1999). This study took through some key purposes such as familiarizing with,

organising, and coding the data, identifying themes, defining and naming themes, and producing the final findings for the thematic analysis perspective.

a. Organization of data

The organization of the data consisted in preparing the data. The organisation of the data is a critical step in a qualitative data analysis process due to the greatest amount of qualitative data in the transcripts after data collection. However, "a valid analysis is immensely aided by data displays that are focused enough to permit viewing of a full data set in one location and are systematically arranged to respond the research question at hand" (Huberman & Milles, 1994: 432). Thus, it is important to go back to the original questions or interview guide and to discriminate between the questions that you are trying to answer and those which are important but not very much relevant (O'Connor & Gibson, 2003). O'Connor and Gibson (2003) go on to advise that the researcher to look at other ideas and themes relating to his/her questions and to future considerations after he/she has answered the original questions.

In the present study, the researcher first opened a confidential research file for all participants. Each participant was given an identity number (ID) or code, date, and context. Pseudonyms were referred to as an ID. The units of analysis were organised and displayed in words, lines, sentences and paragraphs to allow making it easier to pick out concepts and themes. In addition, it permits to look at each topic and specify it individually. Data organisation was followed by the next stage that was to pick out ideas and concepts, and organise them into categories.

b. Familiarizing with data

Familiarization with data is very important step in qualitative analysis because it helps the researcher to emerge themes without losing the interconnections between concepts and their context (Bradley, Curry, & Devers, 2007:1761). This involves reading and rereading written transcripts of the data, noting down the initial ideas for the overall understanding in entirety (Braun & Clarke, 2006). It also involves certain level of transcription of the mass of words or data generated from interviews or observations (Lacy, & Luff, 2012). Not only are these data described, but they are also summarized and given meanings (idem). The transcription normally includes relevant and interesting data. Non-verbal cues such as silence or pause for thought,

laughter or gestures are also beneficial elements not to be ignored during the data transcription from interviews because they may communicate embarrassment or emotional distress (Lacy & Luff, 2012).

c. Data coding

Data coding occurs after reviewing the data and having a general understanding of contexts of key conceptions under study. Generating relevant codes across the entire data set and making sense of themes is a crucial characteristic in the qualitative analysis process (Basit, 2003). Coding is the “stuff of analysis” (Miles & Herberman, 1994:56) which consists in segmenting data with symbols, descriptive words, or paragraphs in categories and in labeling those categories with names (Cresswell, 2003:192). The coding process refers to the creation of categories in relation to data; the grouping and synthesizing together of different instances of datum under an umbrella term that can enable them to be regarded as ‘of the same type’. The researcher may make frequent notes in the margins to categorize important statements and proposed ways of coding the data.

A code in qualitative approach is a shorthand designated, often word or short sentence that symbolically represents a theme or pattern, summary, salient attributed to a portion of interview transcripts, observation field notes, documents or video data (Saldana, 2009, 2015; Kafle, 2013), to cite but a few. A good code derives from data captured from qualitative richness of the phenomenon (Boyatzis, 1998). Boyatzis (1998:31) goes on to say that a good code should contain a label (name), theme concerned (characteristics of themes), themes occurred (indicators on how to flag the themes), qualification to identify themes, and both positive and negative aspects of themes in a conceptually meaningful way. It must be completed with a great rigor and attention to details (Attride-Stirling, 2001; Fereday & Muir-Cochrane, 2006).

As the goal of coding is to find the repetitive patterns of action and consistencies in the large and complete data settings, some analysts (Bradley, Curry & Devers, 2007; Morse, & Richards, 2002) argue that the researcher should present each unit of data in its own unique code, because the same codes are used in repetitive patterns several times. Pattern is not just a stable regularity form of extracts, but it can be categorized in various forms (Haltch, 2002; Saldana, 2015). This

can be similar when things happen in the same way. It can be different when things happen in predictably different ways. The frequency of a pattern involves things that are often or seldom produced. Its sequences refer to things that happen in a certain order, and the correspondence of pattern concerned to those occurred in relation to other activities or events.

After codifying data relating to patterns, the researcher perceived and interpreted the data based on coding filters (Saldana, 2015:6). This analysis and interpretation should reflect the concepts, language, models and theories that structure the study in the first place (Merriam, 1998; Saldana, 2015). Furthermore, “all coding is a judgement call” (Sipe & Ghiso, 2004) while the researcher brings his/her subjectivity, personality, predispositions and coincidences to this process. In the present study, the researcher systematically arranged qualitative data in order to make the classification and categorization. This enabled him to group coded data in categories due to their shared some features.

d. Identifying themes

The identification of potential themes is a very important step in qualitative analysis process (Braun & Clarke, 2006). The concept of theme is used for numerous purposes such as category, unit of analysis, patterns, domain, and strategy. It emerges as an outcome for coding, categorization, and analytic reflections of data and unified ideas relating to the subject of inquiry (Bradley, Curry & Devers, 2007; Saldana, 2009; Vaismoradi, Turunen, & Bondas, 2013). Themes are referred to as patterns in the information that at minimum explain and organise the possible observations and at maximum interpret aspects of a phenomenon (Fereday and Muir-Cochrane, 2006, cited in Boyatzis, 1998). The researcher can go into the text and identify themes or concepts and start engaging in re-coding themes in order to develop more categories for the analysis. Stirling (2001) notes that this step comprises two sections: abstract from coded text segments and refined themes. The abstract involves extracting salient themes and common themes in the coded text segments. This is useful in that it permits the researcher to reframe the reading of the text that enables the identification of underlying patterns and structures. The researcher checks whether the themes are related to the codes extracted from the entire data set, and generates a thematic map for the analysis. In qualitative research, the analysis is inductive, that is, the identified themes emerge from direct data.

e. Defining and naming themes

This stage involves the refinement of the specifics of each theme. It is the selection of themes that are specific enough to be discrete and broad enough to be encapsulated ideas that are contained in numerous text segments. The naming themes must be concise, succinct in order to give the sense of themes (Braun, & Clarke, 2006). The researcher finally produce thematic map that should be allowed to describe each theme (Daley, 2004), and in which the numbers of themes are represented the amount of codes formed each subthemes (Hinton, 2013).

f. Presenting the final analysis or findings

The final report for analysis is very necessary because the findings require an evidence to convince the previous knowledge or study. This concerns the completion of the final analysis of selected extracts linked to the research question and literature and the production of the result from thematic analysis. The final analysis findings consists of the final report that emerged from the data after the analysis process (Ryan, 2006). Presenting findings is the last step that provides similarities and differences across the findings, and considers their theoretical significance (idem). The researcher must ensure that the meaning derived from the themes has a discernible and explicable link to the data and needs to be interconnected to the whole data.

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4.5.2 Data interpretation in mixed methods approach

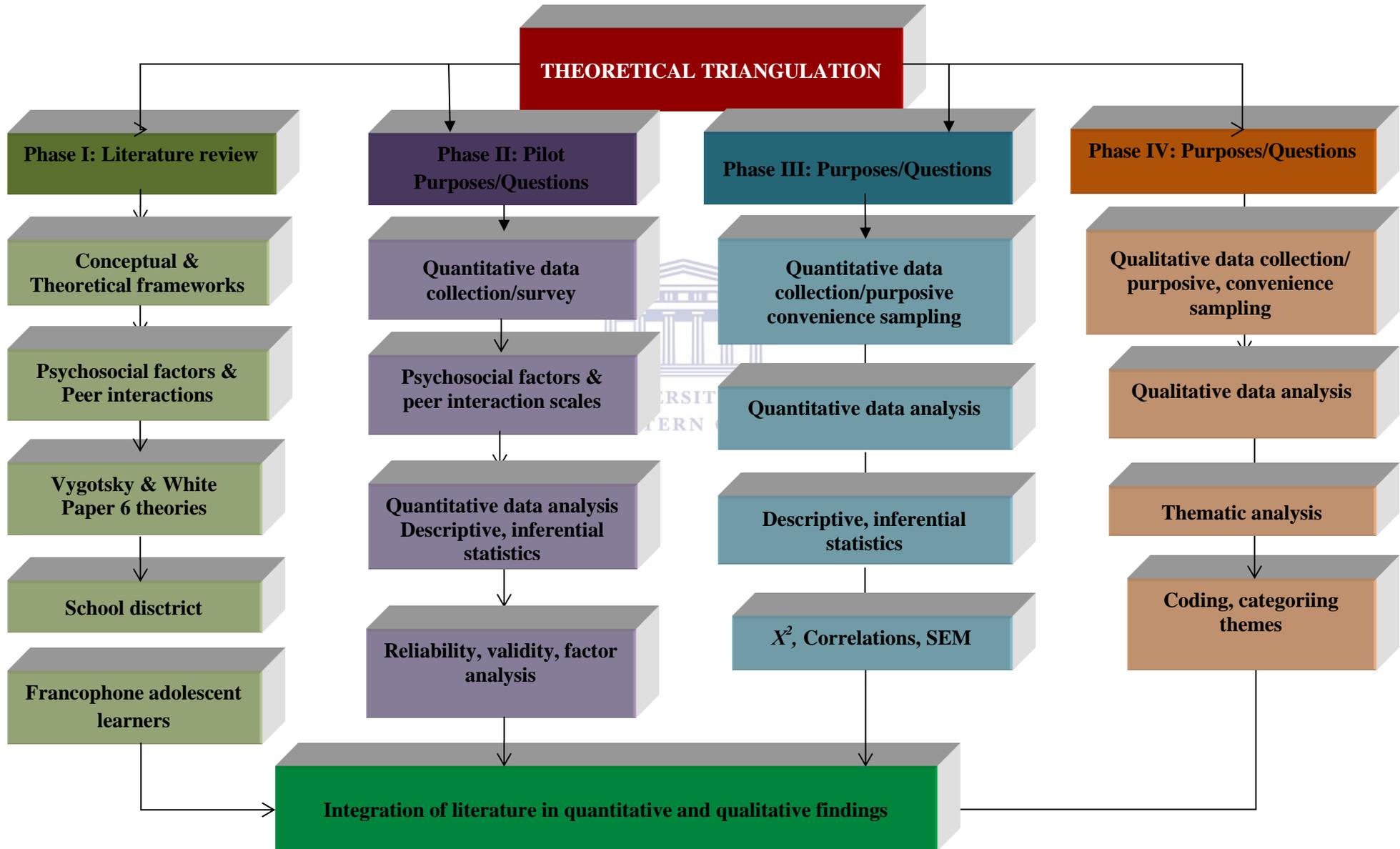
Data interpretation in mixed methods consists of making a meaning of the results or findings. The interpretation of results involves stepping back from the detailed results and advancing their larger meaning in view of the research problems and questions in the study (Creswell, *et al.*, 2011:209). For quantitative research, Creswell (2006) indicates that data interpretation in mixed methods compares the results with the initial research questions that were asked so as to determine how the questions or hypotheses were answered in the study. For qualitative research, Ritchie and Lewis (2003 in Maree, 2007:111) suggest that qualitative data interpretation provides similar explanation about the results but with a few differences. The qualitative researcher may engage in defining concepts, mapping the range and nature of phenomena, creating typologies, finding associations with the data, providing explanations or developing strategies. Through interpretation, the researcher links the results of the study and draws conclusions. In the current study, the thematic analysis was done through the lens of the

interpretivism theory, which involves the interpretation of data in accordance with the researcher's understanding of life experience and actions of participants. In addition, it relates the participants' cultural approach and engages in their cultural practices that are defined by the interpretations. For example, the interpretative actions are not isolated from the participants; certain interpretations are rather shared by the group of participants.

4.5.3 Triangulation of the findings

Triangulation is a “method of cross-checking data from multiple sources to search for regularities in the research data” (O'Donoghue & Punch, 2003:78) and to gain the fuller approach on the investigating phenomenon. Hussein (2009:3) identifies different types of triangulation: (1) data triangulation - the use of multiple data sources in the same study for validation purposes, (2) theoretical triangulation - the use of multiple theories in the same study for the purpose of supporting or refuting findings, (3) investigator triangulation - the use of more than two researchers in any of the research stages in the same study, (4) analysis triangulation - the use of more than two methods of analyzing the same set of data for validation purposes, and (5) methodological triangulation - the use of more than two methods in studying the same phenomenon under investigation. In the present study, the researcher attempted to triangulate the findings in four phases. Phase I describes literature review. This includes conceptual framework, which involves the concepts of psychological factors, social supports and peer interaction, and theoretical framework that consists of Vygotsky and White Paper 6 among francophone adolescent learners selected in the school district. Phase II describes the developmental instruments findings using quantitative approach with survey sampling. It develops psychosocial factors scale and peer interactions scale. This phase uses reliability and validity of factor analysis as data analysis. Instruments are confirmed reliable and valid for francophone adolescent learners. Phase III describes quantitative questions with a purposive and convenience sampling, and the use of Chi-square, correlation and SEM for data analysis. Finally, phase IV describes qualitative approach, which uses semi-structured face-to-face interviews and biographical information of participants to collect data by convenience, and purposive sampling, and explanatory design in order to facilitate the validation and verification of the findings.

Figure 4.2: Theoretical triangulation of findings



4.6 Ethical considerations

Research cannot be simply conducted by anyone and everywhere. Research rather follows some ethical standards. Ethics in research are all actions taken by the researcher to ensure the protection of dignity of subjects and the publication of the information in the research (Fouka & Mantzorou, 2011). In scientific research, there appears to be two main dimensions of ethics (Guillemin & Gillam, 2008:263) which are procedural and practical ethics. The concern of the procedural ethics is to obtain clearance from relevant ethical committee when human subjects are involved in any type of research of a nature. The second dimension refers to everyday ethical matters when conducting the research and interacting with the participants. When a researcher is working with individuals, it is important to understand and pay attention to ethical principles such as privacy, confidentiality and anonymity; informed consent, protection from harm; voluntary participation and free consent; and skills of the research (Fouka & Mantzorou, 2011).

4.6.1 Privacy, confidentiality and anonymity

Babbie (2005) describes privacy as the identities of research participants which should be protected through confidentiality and anonymity. Taking this into consideration, the privacy of the participants was respected, as they were not forced to provide information. Prior to data collection, the researcher had a brief meeting with the participants and informed them that they had the right to withhold any information that they did not wish to disclose. The participants were also informed about their right to withdraw from the study at any time they did not feel comfortable to continue participating in it. For the purpose of anonymity and confidentiality, pseudo-names rather than the actual names of the schools and participants were used. The researcher stored the data in a separate folder on his personal computer, which is accessible to him alone. Text data was kept in a box under lock and key. Only the researcher had access to the key.

4.6.2 Informed consent

Prior to data collection, the researcher obtained an ethical clearance from the University of the Western Cape and permission from the Western Cape Education Department to access the school selected for the study. Approval was also obtained from the Western Cape Education Department (WCED) for access to the school selected for the study and from the principals of the selected

schools in the Western Cape. Furthermore, the researcher obtained informed consent from volunteers before the distribution of the questionnaire. Collected data was kept confidential.

4.6.3 Protection from harm

Ethics pertains to doing well and avoiding harm which can be prevented and reduced through the application of appropriate ethical principles (Orb, Eisenhauser, & Wynaden, 2001). As this study involved francophone adolescent learners; the researcher ensured that he would respect rights of the participants during the interviews process as the study dealt with a sensitive and emotional issue. Furthermore, the participants were referred to a school counsellor or on-side psychologist when needed.

4.6.4 Free consent and voluntary participation

Considering the fact that the participants were aged between 12 and 18 years old, the researcher secured their parents' consent, and individual consent for approval their participation in the study. The researcher ensured that the process of data collection did not disrupt the normal school programmes and activities, and did not inflict physical or psychological harm to the participants. The researcher had to ascertain whether or not the volunteer would be available and willing to participate in the follow-up interviews at a later stage. During the follow-up semi-structured interviews (face-to-face), the researcher presented the participant with a letter of consent in which the research was described. The researcher requested the participants to read the letter, ask questions to gain clarity and sign the consent form to confirm whether they were willing to be involved in the research. Participants were once again reminded that they could withdraw at any time during the process if they wished to do so.

4.7 Conclusion of the chapter

This chapter has presented the research methodology, design and methods that were used to determine the relationship between psychosocial factors and peer interaction by gender, age and grade level among francophone adolescent learners in the selected high schools in the Western Cape. The descriptive statistics and inferential analyses have attempted to show the statistically significant differences that has existed between psychosocial factors, peer interaction and demographic variables. The thematic analysis has provided the positive and negative factors

that can influence peer interactions among francophone adolescent learners in the high schools. These include cooperative cooperative learning, sharing ideas and answers, quality classroom climate, feeling a sense of school belonging, and peer support and peer rejection and peer bullying.



CHAPTER 5

QUANTITATIVE RESULTS: DATA PRESENTATION AND INTERPRETATION

5 Introduction

In the previous chapter, the researcher focused on the research methodology including the research approach, philosophy design and procedure for data collection. This chapter presents the interpretation of the quantitative results. It analyses each variable by applying both the descriptive and inferential statistics. It is worth mentioning that the data have been analyzed to present the results of the participants' demographic characteristics and describe the results of the relationships between psychosocial factors including the emotion regulation, sympathy, empathy, social support, and cultural differences, and peer interaction through gender, age and grade level. It should be noted that the data were collected from the questionnaire administered to 83 participants (N= 83). Lastly, it concludes with the reliability and validity of results. Descriptive statistics, testing hypotheses, inter-correlations between independent and dependent variables, and Structural Equation Modeling (SEM) are subsequently used in this chapter. The level of significance is considered at .05.

5.1 Demographic characteristics of participants

The demographic characteristics of the 83 participants are displayed in Table 5.1. As to the variable gender, the results indicate that there were more females (52; 62.7 %) than males (31; 37.3 %). As regards to descriptive variables, the data displayed in Table 5.2 shows that the mean gender of the sample is 1.627 female and male (range = 1.0 to 2.0, SD = .4867).

With respect to the variable age, the data displayed in the same table suggest that 54 participants (65.1%) were aged between 14 and 16 years while 29 participants (34.9%) were aged between 17 and 19 years old. Furthermore, as indicated in Table 5.2, the mean age of the participants was 15.964 years (range = 14.0 to 19.0, SD = .6188). These statistics show that there were more participants aged between 14 and 16 years old (65.1 %) than those aged between 17 and 19 years.

In respect to the variable high school, the results presented in Table 5.1 show that School A had the highest number of participants (39; 47.0 %), followed by school C (38; 45.8 %) while school B had only 6 participants (7.2 %). Furthermore, the descriptive measures presented in Table 5.2 show a mean of sample 1.988 schools (range = 1 to 3.0, SD = .9690).

As regards to the variable grade level, the data displayed in Table 5.1 indicate that the highest frequency of participants were in grade 9 (33; 39.8 %), followed by grade 8 (27; 32.5 %), and lastly grade 10 (23; 27.7 %). Furthermore, the descriptive measures presented in Table 5.2 show that the mean of the sample was 9.277 grade levels (range = 8.0 to 12.0, SD = 1.2524).

With regard to the variable nationality, the results displayed in Table 5.1 show that the majority of participants were from DRC Congolese nationality (82; 98.8 %), and Brazzaville Congolese nationality (1; 1.2 %). The descriptive statistics displayed in Table 5.2 indicate that the mean of the sample was 1.012 nationality (range = 1.0 to 2.0, SD = .10989).

Table 5.1: Frequency distribution of demographic characteristics of participants

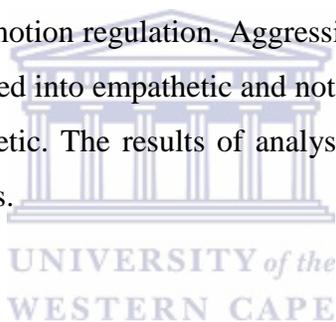
Group	Sub-group	Frequency	Percentage
Gender	Male	31	37.3
	Female	52	62.7
Age	14-16	54	65.1
	17-19	29	34.9
High school	A school	39	47.0
	B School	6	7.2
	C School	38	45.8
Grade level	Grade 8	27	32.5
	Grade 9	33	39.8
	Grade 10	23	27.7
Nationality	Congolese DRC	82	98.8
	Congolese Brazzaville	1	1.2
Total		83	100

Table 5.2: Mean, Standard Deviation for demographic characteristics variables of participants (N=83)

Dimension	N	Minimum	Maximum	Mean	Std. Deviation
Gender	83	1.0	2.0	1.627	.4867
Age	83	14.0	219.0	15.964	1.6188
High School	83	1.0	3.0	1.988	.9690
School Grade Level	83	8.0	12.0	9.277	1.2524
Nationality	83	1.0	2.0	1.012	.1098

5.2 Testing of the hypotheses

In order to test the null hypothesis, this study used chi-square test to determine if two variables are of significance or not. Chi-square is classified as a non-parametric test, which does not rely on assumptions about the form of population distribution or normality including means and variances. CSASI (2004) suggests that parametric tests assumed to obtain set data from normal distributed populations must involve equal variances or know a relationship between variables. Therefore, non-parametric tests do not satisfy these assumptions. As a result, the principle of normality is not necessarily applicable in this study. As data values in this study involved continuous scale or Likert scale of 5 of measurement, therefore, these values were summarized into nominal scale. Nominal data measure variables which are transformed in two suitable categories. With regard to psychological factors, emotion regulation was divided into stable emotion regulation and unstable emotion regulation. Aggression was divided into aggressive and not aggressive. Empathy was divided into empathetic and not empathetic. Sympathy was divided into sympathetic and not sympathetic. The results of analysis with regard to the above testing hypotheses are presented as follows.



5.2.1 Chi-Square test (χ^2)

The chi-square test (χ^2) was calculated to test statistically significant difference in relationship between demographic characteristics and peer interaction, psychosocial factors (emotion regulation, aggressiveness, empathy, and sympathy), social support (from teachers, parents, and peers), cultural differences (knowledge of culture, motivational culture, and behavioural culture).

Hypothesis 1 is displayed in Table 5.3.

As regards to the variable gender, the data presented in Table 5.3 show that the result of the Chi-square used to determine the relationship between gender and peer interaction is, χ^2 (1, N = 83) = .432, $p > .05$ (see Yates continuity correction).

As to the variable age, the data presented in the same table show that the Chi-square used to determine the relationship between age and peer interaction is χ^2 (2, N = 83) = 2.100, $p > .05$.

With respect to the variable ‘grade level’, the data presented in below table indicate that the result of Chi-square used to determine the relationship between grade level and peer interaction is, $\chi^2 (4, N = 83) = 2.227, p > .05$.

The previous results suggest that gender, age, and grade level did not influence peer interactions. Therefore, the hypothesis 1, which stated that there was no statistically significant difference between peer interaction and demographic characteristics (gender, age, and grade level), was not confirmed. In light of this conclusion, the null hypothesis is accepted and therefore the alternative hypothesis is rejected.

Table 5.3: Results of statistical difference between peer interaction and gender, age, and grade level

Variables	Peer interaction				χ^2	Sign.
	Positive		Negative			
	N	%	N	%		
Gender						
Male	6	11.5	46	88.5	0.432	.511
Female	6	19.4	25	80.6		
Total	12	14.5	71	85.5		
Age						
14-16	10	18.5	44	81.5	2.1	.350
17-19	2	6.9	27	93.1		
Total	12	14.5	71	85.5		
Grade level						
Grade 8	4	14.8	23	85.2	2.227	.694
Grade 9	6	18.2	27	81.8		
Grade 10	1	25	3	75		
Grade 11	1	7.7	12	92.3		
Total	12	14.5	71	85.5		

* Correlation is significant at the 0.05 level (2-tailed).

Hypothesis 2 is presented in Table 5.4.

With regard to the variable gender, the data presented in Table 5.4 indicate that the result of the Chi-square used to determine the association between emotional regulation and gender suggests, $\chi^2 (1, N = 83) = 1.352, p < .05$ (see Yates continuity correction). The descriptive scores show that the frequency of the sample for stable emotional regulation was 94.2 for males, while

unstable emotional regulation was 16.1 for females (see Table 5.4). This shows that the males were more stable for emotional regulation than females.

As regard to the variable age, the data displayed in the same table show that the result of the Chi-square used to determine the association between emotional regulation and age appeared with, χ^2 (2, N = 83) = .441, $p < .005$. The descriptive scores indicate that frequency of distribution for stable emotional regulation was 93.1 % in 17-19 years old; while unstable emotional regulation was 11.1 % in 14-16 years old (see Table 5.4). This suggests the higher emotional regulation for the lower ages.

In respect to variable grade level, the data displayed in the same table reveal that the results of Chi-square used to determine the association between emotional regulation and grade level is χ^2 (4, N = 83) = 9.896, $p < .05$. The descriptive statistics indicate that frequency of distribution for stable emotional regulation was 92 % in grade 10, followed by 12.1 % for unstable emotional regulation in grade 8. This suggests the higher emotional regulation for the lower grade level.

In light of the previous results, it can be concluded that gender, age, and grade levels had an influence on emotional regulation. Therefore, the null hypothesis 2, which stated that there was no significant difference between emotional regulation and demographic characteristics (age, gender, and grade level), was not confirmed. Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted.

Table 5.4: Results of statistical difference between emotional regulation, gender, age, and grade level

Variables	Emotional regulation				χ^2	Sign.
	Unstable		Stable			
	N	%	N	%		
Gender					1.352	.045*
Male	3	5.8	49	94.2		
Female	5	16.1	26	83.9		
Total	8	9.6	75	90.4		
Age					.441	.028*
14-16	6	11.1	48	88.9		
17-19	2	6.9	27	93.1		
Total	8	9.6	75	90.4		
Grade level					9.896	.042*
Grade 8	4	12.1	29	87.9		
Grade 9	2	8.7	21	91.3		

Grade 10	2	7.4	25	92.0
Total	8	9.6	75	90.4

* Correlation is significant at the 0.05 level (2-tailed).

Hypothesis 3 is presented in Table 5.5.

In respect to the variable gender, the data presented in Table 5.5 show that the result of the chi-square used to determine the relationship between aggressiveness and gender suggested, $\chi^2 (1, N = 83) = .861, p < .05$ (see Yates continuity correction). The descriptive measures show that the frequency of distribution for aggressive was 44.1 % for males, followed by 75.5 % for no-aggressive for females. This suggests the males were more aggressive than females.

Concerning the variable age, the data presented in the same table indicate that the result of the Chi-square used to determine the relationship between aggressiveness and age was, $\chi^2 (2, N = 83) = 2.290, p < .005$. The descriptive scores indicate that the frequency of sample for aggressive was 33.3 % in 14-16 years old, followed by 68.9 % no-aggressive in 17-19 years old. This suggests the higher aggressiveness for the lower age.

As to the variable grade level, the data presented in table below show that the result of the Chi-square used to determine the relationship between aggressiveness and grade level is $\chi^2 (4, N = 83) = 6.851, p > .05$.

In light of the previous results; it can be concluded that both gender and age had an influence on aggressiveness, while grade level had no significant influence. Thus, the null hypothesis 3, which stated that there is no significant difference between aggressiveness and demographic characteristics (age, gender, and grade level), was partially confirmed. Therefore, the null hypothesis is partially rejected and the alternative hypothesis is partially accepted.

Table 5.5: Results of statistical difference between aggressiveness, gender, age, and grade level

Variables	Aggressiveness				χ^2	Sign.
	Aggressive		Not aggressive			
	N	%	N	%		
Gender					.861	.035*
Male	15	44.1	19	55.9		
Female	12	24.5	37	75.5		
Total	27	32.5	56	67.5		
Age					2.290	.018*
14-16	18	33.3	36	66.7		

17-19	9	31.1	20	68.9		
Total	27	32.5	56	67.5		
Grade level					6.851	.544
Grade 8	6	22.2	21	77.8		
Grade 9	12	36.4	21	63.6		
Grade 10	9	39.3	14	60.9		
Total	27	32.5	56	67.5		

* Correlation is significant at the 0.05 level (2-tailed).

Hypothesis 4 was summarized in Table 5.6.

Concerning the variable gender, the data displayed in Table 5.6 indicate that the results of Chi-square used to determine the relationship between empathy and gender is, $\chi^2 (1, N = 83) = .000$, $p > .05$ (see Yates continuity correction).

In respect to variable age, the data displayed in the same table show that the results of the Chi-square used to determine the relationship between empathy and age indicated with $\chi^2 (1, N = 83) = 19.992$, $p < .05$. Furthermore, the frequency distribution for empathetic was 96.3 % in 14-16 years old, while no-empathetic was 6.9 % in 17-19 years old (see Table 5.6). This suggests that there is higher empathy for the lower age.

As to variable grade level, the data displayed in the table below indicate that the results of the Chi-square used to determine the relationship between empathy and grade level was $\chi^2 (4, N = 83) = 2.576$, $p > .05$.

These previous results show that both gender and grade levels were insignificant on empathy, while age was significant. Therefore, hypothesis 4, which stated that there is no statistically significant difference between empathy and demographic characteristics (age, gender, and grade level), was partially confirmed. Therefore; the null hypothesis was partially accepted and the alternative hypothesis was partially rejected.

Table 5.6: Results of statistical difference between empathy, gender, age, and grade level

Variables	Empathy				χ^2	Sign.
	No Empathetic		Empathetic			
	N	%	N	%		
Gender					.000	.995
Female	2	3.8	50	96.2		
Male	2	6.5	29	93.5		

Total	4	4.8	79	95.2		
Age					19.992	.000*
14-16	2	3.7	52	96.3		
17-19	2	6.9	27	93.1		
Total	4	4.8	79	95.2		
Grade level					2.576	.631
Grade 8	1	3.7	26	96.3		
Grade 9	1	3	32	97		
Grade 10	2	8.7	21	91.3		
Total	4	4.8	79	95.2		

* Correlation is significant at the 0.05 level (2-tailed).

Hypothesis 5 is summarized in Table 5.7.

In respect to variable gender, the data presented in Table 5.7 show that the results of the Chi-square used to determine the relationship between sympathy and gender revealed, $\chi^2 (1, N = 83) = 1.000, p < .005$. Furthermore, the frequency distribution was 94.2 % for sympathetic for females; while no-sympathetic was 6.5 % for males (see Table 5.7). This suggests that females were more sympathetic than males.

Concerning the variable age, the data presented in the same table indicate that the results of the Chi-square used to determine the relationship between sympathy and age is, $\chi^2 (2, N = 83) = .544, p > .05$.

With regard to variable grade level, that data displayed in the table below show that the results of the Chi-square used to determine the relationship between sympathy and grade level reported, $\chi^2 (4, N = 83) = 6.188, p > .05$.

These previous results show that only gender had significant difference for sympathy, whereas both age and grade levels were insignificant. Therefore, hypothesis 5, which stated that there is no statistically significant difference relationship between sympathy and demographic characteristics (age, gender, and grade levels), was partially confirmed. This concluded that the null hypothesis was partially accepted and the alternative hypothesis was partially rejected.

Table 5.7: Results of statistical difference between sympathy and gender, age, and grade level

Variables	Sympathy				χ^2	Sign.
	No Sympathetic		sympathetic			
	N	%	N	%		
Gender					1.000	.000*
Male	3	6.5	29	93.5		
Female	2	5.8	49	94.2		
Total	5	6	78	95.2		
Age					.544	.762
14-16	4	7.4	50	92.6		
17-19	1	3.5	28	96.5		
Total	5	6	78	94		
Grade level					6.188	.186
Grade 8	0	.00	27	100		
Grade 9	4	12.1	29	87.9		
Grade 10	1	4.3	22	95.7		
Total	5	6	78	94		

* Correlation is significant at the 0.05 level (2-tailed).

Hypothesis 6 is shortly displayed in Table 5.8.

With regard to variable gender, the data displayed in Table 5.8 indicate that the results of the Chi-square used to determine the relationship between knowledge of culture and gender was, χ^2 (1, N = 83) = 2.163, $p > .005$.

As to variable age, the data displayed in the same table indicate that the results of the Chi-square used to determine the relationship between knowledge of culture and age was, χ^2 (2, N = 83) = .317, $p > .05$.

As to variable grade level, the data displayed in the table below show that the results of the Chi-square used to determine the relationship between knowledge of culture and grade level is, χ^2 (4, N=83) = .291, $p > .05$.

In light of the preceding results, it can be concluded that gender, age, and grade level did not significantly influence the knowledge of culture. Therefore, hypothesis 6, which declared that there is no statistically significant difference between knowledge of culture and demographic

characteristics (age, gender, and grade level), was confirmed. This led to acceptance of the null hypothesis and the rejection of alternative hypothesis.

Table 5.8: Result of statistical difference between knowledge of culture, gender, age, and grade level

Variables	Knowledge of culture				χ^2	Sign.
	Known		Unknown			
	N	%	N	%		
Gender					2.163	.141
Male	11	21.2	41	78.8		
Female	2	6.5	29	93.5		
Total	13	15.7	70	84.3		
Age					.317	.853
14-16	8	14.8	46	85.2		
17-19	5	17.2	24	82.8		
Total	13	15.7	70	84.3		
Grade level					.291	.990
Grade 8	4	14.8	23	85.2		
Grade 9	5	15.2	28	84.8		
Grade 10	4	25	18	75		
Total	13	15.7	70	84.3		

* Correlation is significant at the 0.05 level (2-tailed).

Hypothesis 7 is resulted in Table 5.9.

Concerning the variable gender, the data presented in Table 5.9 show that the results of the Chi-square used to determine the relationship between motivational culture and gender is, $\chi^2 (1, N = 83) = .401, p > .05$.

In respect to the variable age, the data displayed in the same table indicate that the results of Chi-square used to determine the relationship between motivational culture and age is, $\chi^2 (2, N = 83) = 1.758, p > .05$.

With regard to the variable grade level, the data displayed in the table below show that the results of the Chi-square used to determine the relationship between motivational culture and grade level is, $\chi^2 (4, N=83) = 2.262, p > .05$.

These results suggest that gender, age, and grade level did not significantly affect the motivational culture. Consequently, hypothesis 7, which stated that there is no significant difference relationship between motivational culture and demographic characteristics (age,

gender, and grade level), was confirmed. Therefore, the null hypothesis is accepted and the alternative hypothesis rejected.

Table 5.9: Result of statistical difference between knowledge of culture, gender, age, and grade level

Variables	Motivational culture				χ^2	Sign.
	Motivated		No motivated			
	N	%	N	%		
Gender					.401	.536
Male	9	17.3	43	82.7		
Female	3	9.7	28	90.3		
Total	12	14.5	71	85.5		
Age					1.758	.415
14-16	6	11.1	48	88.9		
17-19	6	21.4	23	78.6		
Total	12	14.5	71	85.5		
Grade level					2.262	.688
Grade 8	2	7.4	25	92.6		
Grade 9	5	15.2	28	84.8		
Grade 10	5	21.7	18	78.3		
Total	12	14.5	71	85.5		

* Correlation is significant at the 0.05 level (2-tailed).

Hypothesis 8 is appeared in Table 5.10.

Concerning the variable gender, the data displayed in Table 5.10 show that the results of the Chi-square used to determine the relationship between behavioural culture and gender was $\chi^2 (1, N = 83) = .4000, p > .05$.

With regard to the variable age, the data displayed in the same table show that the results of the Chi-square used to determine the relationship between behavioural culture and age was, $\chi^2 (2, N = 83) = .544, p > .05$.

As to the variable grade level, the data displayed in the table below show that the results of the Chi-square used to determine the relationship between behavioural culture and grade level was, $\chi^2 (4, N=83) = 6.188, p > .05$.

These previous results suggest that gender, age, and grade level did not significantly affect the behavioural culture. Therefore, hypothesis 8, which stated that there is no statistically significant difference between behavioural culture and demographic characteristics (age, gender, and grade

level), was confirmed. Therefore, the null hypothesis was accepted and alternative hypothesis was rejected.

Table 5.10: Result of statistical difference between behavioural culture and gender, age, and grade level

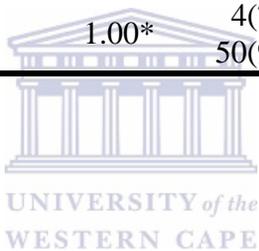
Variables	Behavioural culture				χ^2	Sign.
	Behaved		No behaved			
	N	%	N	%		
Gender					1.356	.244
Male	8	15.4	31	100		
Female	8	25.8	52	100		
Total	16	19.3	83	100		
Age					.342	.843
14-16	10	18.5	44	81.5		
17-19	6	20.7	23	79.3		
Total	16	19.3	67	80.7		
Grade level					1.585	.812
Grade 8	4	14.8	23	85.2		
Grade 9	6	18.2	27	81.8		
Grade 10	6	26.1	17	73.9		
Total	16	19.3	67	80.7		

* Correlation is significant at the 0.05 level (2-tailed).

Table 5.11: Gender, age, grade level differences regarding psychological factors (emotional regulation, aggressiveness, empathy, sympathy)

Variables		Gender n (%)			Age n (%)			Grade level n (%)			χ^2
		Male (n=31)	Female (n=52)	χ^2	14-16 (n=54)	17-19 (n=29)	χ^2	Grade8 (n=27)	Grade9 (n=33)	Grade10 (n=23)	
Emotional regulation	Unstable emotion	5(16.1)	3(5.8)	1.352*	6 (11.1)	2(6.9)	.441*	4(12.1)	2(8.7)	2(7.4)	9.896*
	Stable emotion	26(83.9)	49(94.2)		48(88.9)	27(93.1)		29(87.9)	21(91.3)	25(92.0)	
Aggressiveness	Not Aggressive	19(55.9)	37(75.5)	.861*	36(66.7)	20(68.9)	2.29*	21(77.8)	21(63.6)	14(60.9)	6.851
	Aggressive	15(44.1)	12(24.5)		18(33.3)	9(31.1)		6(22.2)	12(36.4)	9(39.3)	
Empathy	Non empathetic	2(6.5)	2(3.8)	.000	2(3.7)	2(6.9)	19.99	1(3.7)	1(3)	2(8.7)	2.576
	Empathetic	29(93.5)	50(96.2)		52(96.3)	27(93.1)		26(96.3)	32(97)	21(91.3)	
Sympathy	Non sympathetic	3(6.5)	2(5.8)	1.00*	4(7.4)	1(3.5)	.544	0(.00)	4(12.1)	1(4.3)	6.188
	Sympathetic	29(93.5)	49(94.2)		50(92.6)	28(96.5)		27(100)	29(95.7)	22(95.7)	

* Correlation is significant at the 95 % level. ($p < 0.05$).



5.2.2 Overview of hypotheses testing

Table 5.11: Results of statistically significant differences between behavioural culture and gender, age, and grade level

No	Hypotheses	Decision H_0	Conclusions
1	There is no significant difference relationship between peer interaction and demographic characteristics (gender, age, grade level).	H_0 is accepted	Insignificant difference relationship
2	There is no difference significant relationship between emotional regulation and demographic characteristics (gender, age, grade level).	H_0 is rejected	Significant difference relationship
3	There is no difference significant relationship between empathy and demographic characteristics (gender, age, and grade level).	H_0 is partially rejected	Partially significant difference relationship
5	There is no difference significant relationship between sympathy and demographic characteristics (gender, age, and grade level).	H_0 is partially accepted	Partially insignificant difference relationship
6	There is no difference significant relationship between knowledge of culture and demographic characteristics (gender, age, and grade level).	H_0 accepted	Insignificant difference relationship
7	There is no difference significant relationship between motivational culture and demographic characteristics (gender, age, and grade level).	H_0 is accepted	Insignificant difference relationship
8	There is no difference significant relationship between behavioural culture and demographic characteristics (gender, age, and grade level).	H_0 is accepted	Insignificant difference relationship

5.2.3 Spearman correlation test

The Spearman correlation matrix for the independent variables including psychological factors (emotion regulation, aggressiveness, empathy, sympathy), social support from teachers (affective support, information support, instrument support), social support from parents (affective support, information support, instrument support), social support from peers (affective support, information support, instrument support), and cultural differences (knowledge of culture, motivational culture, behavioural culture) mediating dependent variables including peer interaction and demographic characteristics (gender, age, grade level) were calculated. The results of these correlations are displayed in Table 5.6.

5.2.3.1 Results of inter-correlation between psychosocial factors and level of peer interaction by age

The results presented in Table 5.6 show that psychological factors (emotional regulation, aggressiveness, empathy, and sympathy) and peer interaction were found to be not significant for the variable age. The scores for emotional regulation, sympathy associated with peer interaction had a very weak positive correlation ($r = .052, p > .05$) ($r = .094, p > .05$), while the scores of aggressiveness, empathy, and peer interaction reported negative weak association ($r = -.168, p > .05$) ($r = -.018, p > .05$) for 14-16 years old. Emotional regulation, aggressiveness and sympathy were weakly positively correlated with peer interaction ($r = .173, p > .05$) ($r = .103, p > .05$) ($r = .178, p > .05$), and negative very weak correlation showed between empathy and peer interaction scores ($r = -.033, p > .05$) for 17-19 years old.

The results presented in the same table further indicate a significant positive relationship between peer interaction and affective social support from teachers for the variable age. For 14-16 years old, a weak association ($r = .135, p > .05$) ($r = .206, p > .05$), ($r = .258, p > .05$), was found between peer interaction and all three broad kinds of social support from teachers. For 17 to 19 years old, a moderate association was reported between affective, instrument social support and peer interaction ($r = .551, p < .05$) ($r = .329, p > .05$), and a weak association appeared at informational social support ($r = .226, p > .05$). In light of these results, it can be concluded that the higher affective social support from teachers, the lower the age. Older children who received little affective social support from their teachers reported more peer interaction than younger children receiving higher level of social support from teachers.

The results further demonstrated in the same table show only an insignificant positive difference relationship between peer interaction and instrumental social support from parents by age. For 14-16 years old, affective and instrumental social support from parents were positively very weakly correlated with peer interaction ($r = .020, p > .05$) ($r = .12, p > .05$), but very weakly negatively related with information ($r = -.047, p > .05$). Moderate associations between all three types of social support from parents and peer interaction ($r = .305, p > .05$) ($r = .303, p > .05$) ($r = .504, p < .05$) were found for the range of 17-19 years old. In light of these results, it can be concluded that the older participants were more supported with instrumental social support from their parents than the younger ones.

The results presented in the same table further show that peer interaction and both affective and informational social supports from peers were significantly positively related to the variable age. However, both affective and instrumental social support scores were weakly correlated ($r = .199, p > .05$) ($r = .121, p > .05$) with peer interaction and a moderate association ($r = .306, p < .05$) between affective support and peer interaction scores was explored for 14-16 years old respectively. Furthermore, affective social support from peers scores was moderately related ($r = .394, p < .05$) to peer interaction and a weak correlation between informational and instrumental social support and peer interaction ($r = .285, p > .05$) ($r = .204, p > .05$) was found for 17 to 19 years old. In light of these results, it can be concluded that the older participants were more affectively supported socially by their peers than the younger one with related to peer interaction. In addition, the younger participants were reported to be more informationally supportive by their peers than the older ones.

The results also demonstrated in the same table indicate a significant positive difference in correlation between peer interaction and cultural differences (knowledge of culture, motivational culture, and behavioural culture) for age. However, knowledge of culture and motivational culture were moderately correlated with peer interaction ($r = .414, p < .05$) ($r = .363, p < .05$) and a weak association ($r = .137, p > .05$) was found for 14-16 years old. Motivational culture and behavioural culture were moderately correlated with peer interaction ($r = .309, p > .05$) ($r = .428, p < .05$) as well as knowledge of culture was weakly reported ($r = .26, p > .05$) for 17-19 years old. In the light of these results, it can be concluded that the younger participants were acknowledged to know more about their cultures based on interaction with peers than the older one. Similarly, the younger participants were more motivated with their cultures than the older one. Finally, this suggested that older participants were more behaved based on their culture of peer interaction than the younger ones.

Table 5.12: Results of inter-correlation between psychosocial factors and level of peer interaction by age

Variables	Level of peer interaction			
	14-16 (N=54)		17-19 (N=28)	
	r	Sign.	r	Sign.
Psychological factors				
Emotion regulation	.052	.708	.173	.38
Aggressiveness	-.168	.226	.103	.603
Empathy	-.018	.9	-.033	.869
Sympathy	.094	.499	.178	.364
Social support from teachers				
Affective support	.135	.329	.551**	.002
Information support	.206	.136	.226	.247
Instrument support	.258	.06	.329	.087
Social support from parents				
Affective support	.0197	.154	.305	.115
Information support	-.047	.737	.303	.117
Instrument support	.12	.388	.504**	.006
Social support from peers				
Affective support	.199	.149	.394*	.038
Information support	.306*	.0382	.285	.142
Instrument support	.121	.382	.204	.297
Cultural differences				
Knowledge of culture	.414*	.002	.26	.181
Motivational culture	.363*	.007	.309	.11
Behavioural culture	.137	.324	.428*	.023

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

5.2.3.2 Results of inter-correlation between psychosocial factors and level of peer interaction by gender

The results presented in Table 5.7 reveal that the relationship between psychological factors (emotion regulation, aggressiveness, empathy, and sympathy) and peer interaction were found to be not significantly correlated for the variable gender. For males, emotion regulation and sympathy were positively weakly correlated with peer interaction ($r = .014, p > .05$) ($r = .138, p > .05$), while aggressiveness and empathy were negatively weakly correlated with peer interaction ($r = -.119, p > .05$), ($r = -.118, p > .05$). For females, a positive weak correlation was found between emotional regulation, empathy, sympathy and peer interaction ($r = .173, p > .05$) ($r = .025, p > .05$) ($r = .106, p > .05$), and a negative very weak correlation between

aggressiveness and peer interaction ($r = -.008, p > .05$). In the light of these results, it can be suggested that gender may not have influence within peer interaction and psychosocial factors including emotional regulation, aggressiveness, empathy and sympathy.

The results displayed in the same table further reveal that the relationship between peer interaction and three boards social support from teachers was partially significant correlated for the variable gender. For males, positive weak relationships ($r = .251, p > .05$) ($r = .213, p > .05$) ($r = .152, p > .05$) were reported between affective, informational, instrument social support from teachers and peer interaction. For females, a moderate positive significant correlation ($r = .309, p < .05$) appeared between peer interaction and instrumental social support from teachers, and positive weak relationships ($r = .256, p > .05$) ($r = .211, p > .05$) between peer interaction, affective, and informational social support from teachers. In the light of these results, it can be suggested that females were more instrumentally supported form their teachers than males with regard to peer interactions.

The results displayed in the table below show that social supports from parents were significantly correlated with peer interaction for the variable gender. For males, affective social support was positively, very weakly correlated with peer interaction ($r = .024, p > .05$). Similarly, information, and instrumental social support were negatively weakly correlated with peer interaction ($r = -.167, p > .05$) ($r = -.06, p > .05$). For female, all three broad types of social supports were significantly related with peer interaction. Affective and instrumental were moderately correlated ($r = .440, p < .05$) ($r = .477, p < .05$), and informational was weakly reported ($r = .283, p < .05$). In light of these results, it can be suggested that the social support from parents may have an influence within peer interaction for the variable female. These concluded that females were more affectively, informationally, and instrumentally supported by their parents than males with regard to peer interactions.

The results displayed in the same table further demonstrate that all three main types of social supports from peers were significantly positively related to peer interactions for the variable gender. A weak association between affective and informational support ($r = .217, p > .05$) ($r = .135, p > .05$) and, a very weak relationship between instrumental and peer interaction ($r = .066, p > .05$) were found for males. A moderate relationship appeared between affective and informational ($r = .286, p < .05$) ($r = .385, p < .05$), and a weak correlation ($r = .204, p < .05$) was explored between instrumental support and peer interaction for females. In the light of these

results, it can be concluded that females were more affectively, informationally supported by their peers than males with regard to peer interaction.

The results displayed in the same table further indicate that cultural differences (knowledge of culture, motivation culture, and behavioural culture) were positively significantly correlated with peer interaction for the variable gender. Both knowledge of culture and motivational culture were moderately associated ($r = .441, p < .05$) ($r = .396, p < .05$) with peer interaction, and a weak association ($r = .157, p > .05$) was reported between behavioural cultures and peer interaction ($r = .157, p > .05$) for the variable male. Therefore, a moderate relationship ($r = .340, p < .05$) was found between knowledge of culture motivational, behavioural cultures, and peer interaction ($r = .307, p < .05$) ($r = .307, p < .05$) for the variable female. In light of these results, it can be suggested that cultural differences (knowledge of culture, motivational, and behavioural cultures) may have a moderate influence on peer interaction for the variable gender. Therefore, it can be concluded that males were more influenced by the cultural differences than females regarding to peer interaction.

Table 5.13: Results of inter-correlation between psychosocial factors and level of peer interaction by gender

Variables	Level of peer interaction			
	Male (N = 52)		Female (N = 31)	
	r	Sign.	r	Sign.
Psychological factors				
Emotion regulation	.014	.94	.173	.221
Aggressiveness	-.119	.525	-.008	.954
Empathy	-.118	.526	.025	.862
Sympathy	.138	.548	.106	.453
Social support from teachers				
Affective support	.251	.173	.256	.067
Information support	.152	.414	.211	.132
Instrument support	.213	.25	.309*	.026
Social support from parents				
Affective support	.024	.898	.440**	.001
Information support	-.167	.369	.283*	.042
Instrument support	-.06	.749	.477**	.000
Social support from peers				
Affective support	.217	.24	.286*	.04
Information support	.135	.468	.385**	.005
Instrument support	.066	.724	.204	.146
Cultural differences				

Knowledge of culture	.441*	.013	.340*	.014
Motivational culture	.396*	.028	.307*	.06
Behavioural culture	.157	.4	.307*	.027

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

5.2.3.3 Results of inter-correlation between psychosocial factors and level of peer interaction by grade level

The results displayed in Table 5.8 reveal that the relationship between emotional regulation, empathy, and sympathy and peer interaction were insignificantly correlated for the variable grade level, only aggressiveness was significant. These results presented in the same table reveal that aggressiveness was positively moderately correlated with peer interaction ($r = .476, p < .05$), whereas, emotional regulation, empathy and sympathy were negatively correlated with peer interaction ($r = -.0118, p > .05$), ($r = -.255, p > .05$), ($r = -.104$) for 8th grade level.

Emotional regulation, empathy and sympathy were positively weakly correlated with peer interaction ($r = .116, p > .05$), ($r = .132, p > .05$), ($r = .22, p > .05$) as well as aggressiveness and peer interaction ($r = -.035, p > .05$) was very weakly negatively found in correlation with peer interaction for 9th grade level.

Positive strong correlation appeared between emotional regulation and peer interaction ($r = .768, p > .05$), and a weak relationship between empathy, sympathy and peer interaction ($r = .208, p > .05$), ($r = .096, p > .05$) were found within peer interaction, while a negative moderate correlation ($r = -.355, p > .05$) was found between aggressiveness and peer interaction at 10th grade level. Aggressiveness and sympathy were positively moderately correlated with peer interaction ($r = .46, p > .05$) ($r = .407, p > .05$) and emotional regulation reported a weak relationship ($r = .194, p > .05$) at 11th grade level, while empathy reported a negative correlation ($r = -.033, p > .05$) at the same grade level.

However, negative correlations were found between emotional regulation, empathy, and sympathy ($r = -.261, p > .05$), ($r = -.054, p > .05$) ($r = -.383, p > .05$) within peer interaction at 12th grade level, whereas a positive strong correlation ($r = .638, p > .05$) reported between aggressiveness and peer interaction at the same grade level.

In the light of these results, it can be suggested that grade level differences may not have influence within psychological factors (emotional regulation, empathy and sympathy) and peer interaction, but it may have a greater influence between aggressiveness and peer interactions.

Therefore, it can be concluded that the grade 8th level were more aggressive than others (9, 10, 11, and 12th).

The results presented in the same table demonstrate that all three different kinds of social supports from teachers were positively significantly correlated with peer interaction for the variable grade level. However, affective and instrumental social support were negatively very weakly correlated with peer interaction ($r = -.061, p > .05$) ($r = -.047, p > .05$) at 8th grade level, while informational social support was positively very weakly correlated ($r = .024, p > .05$). Positive moderate correlation was reported between informational, and instrumental social support from teachers and peer interaction ($r = .371, p < .05$) ($r = .400, p > .05$), and a weak relationship with affective social support ($r = .185, p > .05$) at 9th grade level. A moderate correlation was found with affective social support ($r = .498, p > .05$), a weak association with informational social support ($r = .276, p > .05$), and a strong one with instrumental social support ($r = .851, p > .05$) at 10th grade level.

Positive strong correlation appeared between affective social support and peer interaction ($r = .702, p < .05$), a moderate correlation with instrumental ($r = .565, p < .05$), and a weak one with informational social support ($r = .258, p > .05$) at 11th grade level.

Affective and instrumental social support were found positively correlated with peer interaction ($r = .333, p > .05$) ($r = .071, p > .05$) at 12th school grade level, while informational social support was negatively weakly correlated ($r = -.306, p > .05$) as well as.

In light of these results, it can be suggested that grade level differences may have a greater impact on affective, informational, and instrumental social support from teachers and peer interaction. Thus, it can be concluded that the higher affective, information, instrumental social support from teachers, the lower the grade level.

The results presented in the same table further show only instrumental social supports from parents were positively significantly correlated with peer interaction for the variable grade level, but not for affective and informational one. However, affective, informational, instrumental social support were positively weakly correlated with peer interaction ($r = .302, p > .05$) ($r = .22, p > .05$) ($r = .344, p > .05$) at 8th grade level.

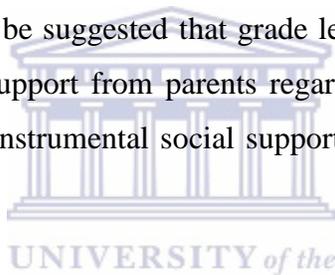
Affective and instrumental social support from parents were positively weakly correlated with peer interaction ($r = .13, p > .05$) ($r = .019, p > .05$) at 9th grade level, while informational social support was negatively weakly reported ($r = -.2, p > .05$).

Informational and instrumental social support were negatively correlated ($r = -.109, p > .05$) ($r = -.465, p > .05$) at 10th grade level, while a moderate positive correlation ($r = .389, p > .05$) was reported between affective social support and peer interaction at the same level.

Positive moderate correlation was found between affective, informational, social support from parents and peer interaction ($r = .47, p > .05$) ($r = .511, p > .05$) at 11th grade level, a strong association with instrumental social support ($r = .701, p < .05$) as well as.

Similarly, affective, informational, instrumental social support were positively moderately correlated with peer interaction ($r = .304, p > .05$) ($r = .379, p > .05$), and informational social support had strongly appeared at 12th grade level.

In the light of these results, it can be suggested that grade level differences may have a greater influence on instrumental social support from parents regarding peer interaction. Therefore, it can be concluded that the higher instrumental social support from parents, the lower the grade level.



The results displayed in the same table show that affective, informational and instrumental social supports from peers were positively significantly correlated with peer interaction for the variable grade level. However, affective, informational, and instrumental social support from peers were positively associated with peer interaction ($r = .234, p > .05$) ($r = .088, p > .05$) ($r = .31, p > .05$) at 8th school grade level. Positive correlation was found between affective, informational, instrumental social support ($r = .221, p > .05$) ($r = .377, p < .05$) ($r = .071, p > .05$) at 9th grade level. Negative strong correlation between affective informational, and instrumental social support from peers and peer interaction ($r = -.734, p > .05$) ($r = -.567, p > .05$) ($r = -.514, p > .05$) at 10th school grade level. Positive strong association was found between affective, informational, and instrumental social support and peer interaction ($r = .695, p < .05$) ($r = .776, p < .05$) ($r = .703, p < .05$) at 11th school grade level. Finally, Affective, informational, and instrumental social support were positively reported with peer interaction ($r = .27, p > .05$) ($r = .483, p > .05$) ($r = .244, p > .05$) at 12th grade level.

In the light of these results, it can be suggested that grade level differences may have a greater influence on affective, informational, and instrumental social support from peers relating to peer interaction. Therefore, it can be concluded that the higher affective, informational, and instrumental social support from peers, the lower grade level.

The results displayed in the same table further reveal that knowledge of culture, and motivational culture were positively significantly correlated with peer interaction for the variable grade level. However, both knowledge of culture and motivational culture were positively associated ($r = .31, p > .05$) ($r = .04, p > .05$) with peer interaction at 8th grade level, while behavioural culture appeared negative ($r = -.09, p > .05$). Positive moderate correlations were found between knowledge of culture, behavioural culture and peer interaction ($r = .361, p < .05$) ($r = .403, p < .05$), and weak relationship with motivational social support ($r = .233, p > .05$) at 9th school grade level. Similarly, a positive correlation was found between knowledge of culture, motivational and behavioural culture and peer interaction ($r = .438, p > .05$) ($r = .674, p > .05$) ($r = .489, p > .05$) at 10th grade level. Both knowledge of culture and motivational culture were respectively reported as positive strong correlation with peer interaction ($r = .721, p < .05$) ($r = .870, p < .05$), and behavioural social support as moderate correlation ($r = .455, p > .05$) at 11th grade level. Finally, both knowledge of culture and motivational culture were negatively strongly correlated with peer interaction ($r = -.831, p < .05$) ($r = -.693, p > .05$) at 12th school grade level, while behavioural culture was positively moderately found with peer interaction ($r = .543, p > .05$) at the same grade level.

In the light of these results, it can be suggested grade level differences may have a greater impact on knowledge of culture and motivational culture regarding to peer interactions. Therefore, it can be concluded that the higher the knowledge of culture and motivational culture, the lower the grade level.

Table 5.14: Results of relationship between psychosocial factors and level of peer interaction by grade level

Variables	Level of Peer interaction									
	Grade 8 (N=25)		Grade 9 (N=35)		Grade 10 (N=4)		Grade 11 (N=13)		Grade 12 (N=6)	
	r	Sign.	r	Sign.	r	Sign.	r	Sign.	r	Sign.
Psychological factors										
Emotion regulation	-.0118	.576	.116	.506	.768	.232	.194	.526	-.261	.617
Aggressiveness	.476*	.016	-.035	.842	-.355	.645	.46	.114	.638	.113
Empathy	-.255	.218	.132	.45	.208	.792	-.033	.915	-.054	.919
Sympathy	-.104	.62	.22	.204	.096	.904	.407	.167	-.383	.453
Social support from teachers										
Affective support	-.061	.771	.185	.286	.498	.502	.702**	.007	.333	.519
Information support	.024	.911	.371*	.028	.276	.276	.258	.395	-.306	.555
Instrument support	-.047	.882	.400	.017	.851	.149	.565*	.044	.017	.975
Social support from parents										
Affective support	.302	.143	.13	.457	.389	.611	.47	.105	.304	.557
Information support	.22	.291	-.2	.249	-.109	.891	.511	.074	.658	.155
Instrument support	.344	.093	.019	.914	-.465	.535	.701**	.008	.379	.459
Social support from peers										
Affective support	.234	.26	.221	.202	-.734	.266	.695**	.008	.27	.605
Information support	.088	.674	.377*	.026	-.567	.433	.776**	.002	.483	.332
Instrument support	.31	.882	.071	.686	-.514	.486	.703**	.007	.244	.641
Cultural differences										
Knowledge of culture	.31	.131	.361*	.033	.438	.562	.721**	.005	-.831*	.04
Motivational culture	.04	.848	.403*	.016	.674	.326	.870**	.000	-.693	.127
Behavioural culture	-.09	.667	.233	.179	.489	.511	.455	.118	.543	.265

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

5.3 Structural Equation Modeling (SEM)

Based on the objective of the study, the results of each objective are presented below by using SEM with AMOS (version 23). For instance, both proposed and final models are detailed as followed.

5.3.1 Goodness-of-model-fit indices

In this study, the researcher started by conducting a chi-square analysis in order to test the relation between predictors and latent variables. In addition, the fit indices were used to see how the data fit in the model. These included χ^2 (CNN), Root Mean Square Error of Approximation (RMSEA), comparative fit Index (CFI), Tucker-Lewis Index (TLI), AGFI, Goodness-of-Fit

Indices (GFI), Root Mean Square residual (RMR) and standardized Root Mean Square Residual (SRMR) and p-value close fit (PCLOSE). The results of all the SEM are reported and summarized in in Table 5.4 below as followed.

5.3.1.1 Model A for psychological factors

The proposed Model A: Psychological Factors (PF) consisted of Emotional Regulation (ER), Aggressiveness (AG), Sympathy (SYM), and Empathy (EMP) (see Figure 5.1). The results presented in Table 5.9 show that the indices are significantly confirmed the sample data fit with χ^2 : CMIN (199) = 265.561, RMR = .098, GFI = .926, AGFI = .914, RMSEA = .064, CFI= .792, TLI = .759. Only p -value = .001, and PCLOSE = .139 appeared a poor fit. In light of these results, it can be concluded that the Model A was reasonably fitted to the sample data of covariance between exogenous variables, which indicated most of these variables were not significant ($p > .05$); only empathy had a strong correlation with sympathy ($p < .05$).

Table 5.15: Covariances (Group number 1 - Default model)

Variables			Estimate	S.E.	C.R.	P
EMP	<-->	AG	0.027	0.064	0.419	0.676
AG	<-->	SYM	0.082	0.054	1.521	0.128
ER	<-->	SYM	-0.065	0.046	-1.398	0.162
EMP	<-->	SYM	0.168	0.074	2.271	0.023
ER	<-->	EMP	-0.151	0.085	-1.771	0.077
ER	<-->	AG	0.057	0.065	0.881	0.378

5.3.1.2 Model B of social support from teachers output

The proposed Model B: Social Support from Teachers (SST) involved the Affective Social Support from Teachers (AFST), Information Social Support from Teachers (INST), and Instrument Social Support from Teachers (ISST) (see Figure 5.2). The results presented in the Table 5.10 reveal that the model fit indices are significantly defined to the sample data fit, with χ^2 (69) = 102.341, RMR = .098, GFI = .864, AGFI = .792, RMSEA = .077, CFI = .928, TLI = .905. Only p -value = .006, and PCLOSE = .09 reported poor fit. In light of the results, which are indicated most of these indices demonstrating a good model fit, it can be concluded that the Model B fitted to the sample data of covariance between exogenous variables, which indicated

all the variables of social support from teachers were significantly correlated, AFST, INST, and ISST ($p < .005$).

Table 5.16: Covariances (Group number 1 - Default model)

Variables			Estimate	S.E.	C.R.	P
AFST	<-->	INST	0.366	0.129	2.851	0.004
AFST	<-->	ISST	0.405	0.121	3.347	***
INST	<-->	ISST	0.366	0.125	2.929	0.003

5.3.1.3 Model C of social support from parents output

The proposed Model C: Social Support from Parents (SSP) consisted of Affective Social Support from Parents (AFSP), Information Social Support from Parents (INSP), and Instrument Social Support from Parents (ISSP) (see Figure 5.2). The results displayed in Table 5.11 show that the model fit indices are significantly established to the sample data fit, with χ^2 (69) = 102.341, RMSEA = 0.073, CFI = .838, TLI = .917, AGFI = .74, GFI = .812. Only p -value = .006, and PCLOSE = .104 appeared poor fit. In light of these results, which indicated most of indices showing a good model fit, it can be concluded that the sample data fitted in Model C. All the variables of social support from parents were significantly related, AFSP, INSP, and ISSP ($p < .005$).

Table 5.17: Covariances (Group number 1 - Default model)

Variables			Estimate	S.E.	C.R.	P
ASSP	<-->	INSP	0.562	0.141	3.993	***
ASSP	<-->	ISSP	0.406	0.116	3.512	***
INSP	<-->	ISSP	0.685	0.16	4.272	***

5.3.1.4 Model D of social support from peers output

The proposed Model D: Social Support from Parents (SSPS) composed of Affective Social Support from Peers (AFSPS), Information Social Support from Peers (INSPS), and Instrument Social Support from Peers (ISSPS) (see Figure 5.2). The results displayed in Table 5.12 show that the model fit indices are significantly set to the sample data fit, with χ^2 : CMIN (79) = 114.54, RMR = .089, GFI = .852, AGFI = .776, RMSEA = .074, CFI = .937, TLI = .916. Only p -

value = .006, and PCLOSE = .102 performed poor fit. In light of these results, which indicated the majority of indices reporting a good model fit, it can be concluded that the sample data fitted in Model D. All the variables of social support from parents were significantly related, ASSPS, INSPS, and ISSPS ($p < .005$).

Table 5.18: Covariances (Group number 1 - Default model)

Variables			Estimate	S.E.	C.R.	P
ASSPS	<-->	INSPS	0.549	0.129	4.265	***
INSPS	<-->	ISSPS	0.532	0.122	4.359	***
ASSPS	<-->	ISSPS	0.486	0.122	3.968	***

5.3.1.5 Model E of cultural differences output

The proposed Model E: Cultural Differences (CD) consisted of Knowledge of Culture (KC), Motivational Culture (MC), and Behavioural Culture (BC) (see Figure 5.3).. The results displayed in Table 5.13 show that the model fit indices are significantly confirmed to the sample data fit, with χ^2 : CMIN (199) = 265.561, RMR = .098, GFI = .688, AGFI = .744, RMSEA = .064, PCLOSE = .139, CFI= .792, TLI = .759. Only, p -value = .001, in light of these results, which indicated the majority of indices appearing good model fit, it can be concluded that all the variables of social support from parents were significantly related to KC, MC, and BC ($p < .005$).

Table 5.19: Covariances (Group number 1 - Default model)

Variables			Estimate	S.E.	C.R.	P
KC	<-->	BC	0.569	0.132	4.175	***
MC	<-->	KC	0.534	0.127	3.435	***
BC	<-->	MC	0.457	0.162	3.761	***

5.1.1 Summary of the fit indices model

Table 5.20: Summary of the fit indices for psychosocial factors model

Type of fit model	Index	Excepted values	Correctly specialized Model				
			Model A	Model B	Model C	Model D	Model E
Absolute fit	$\chi^2(df)$	Not-significant	Significant	Not-significant	Significant	Not-significant	Significant
	CMIN		265.561	102.341	122.274	114.54	249.132
	CMIN/DP		1.334	1.269	1.439	1.45	1.523
	<i>p</i> -value	>.05	.001	.06	.005	.06	.001
	GFI	>.90	.926	.864	.853	.852	.688
	AGFI	>.90	.914	.792	.793	.776	.744
	RMR	< .08	.098	.098	.096	.089	.098
	RMSEA	< .07; .09	.064	.077	.073	.074	.064
	PCLOSE		.139	.09	.104	.102	.132
Incremental fit	CFI	>.95	.792	.928	.933	.937	.792
	TLI		.759	.905	.917	.916	.759
		Remark	Good fit	Good fit	Good fit	Good fit	Good fit

Figure 5.1: Final Fit Model for psychosocial factors

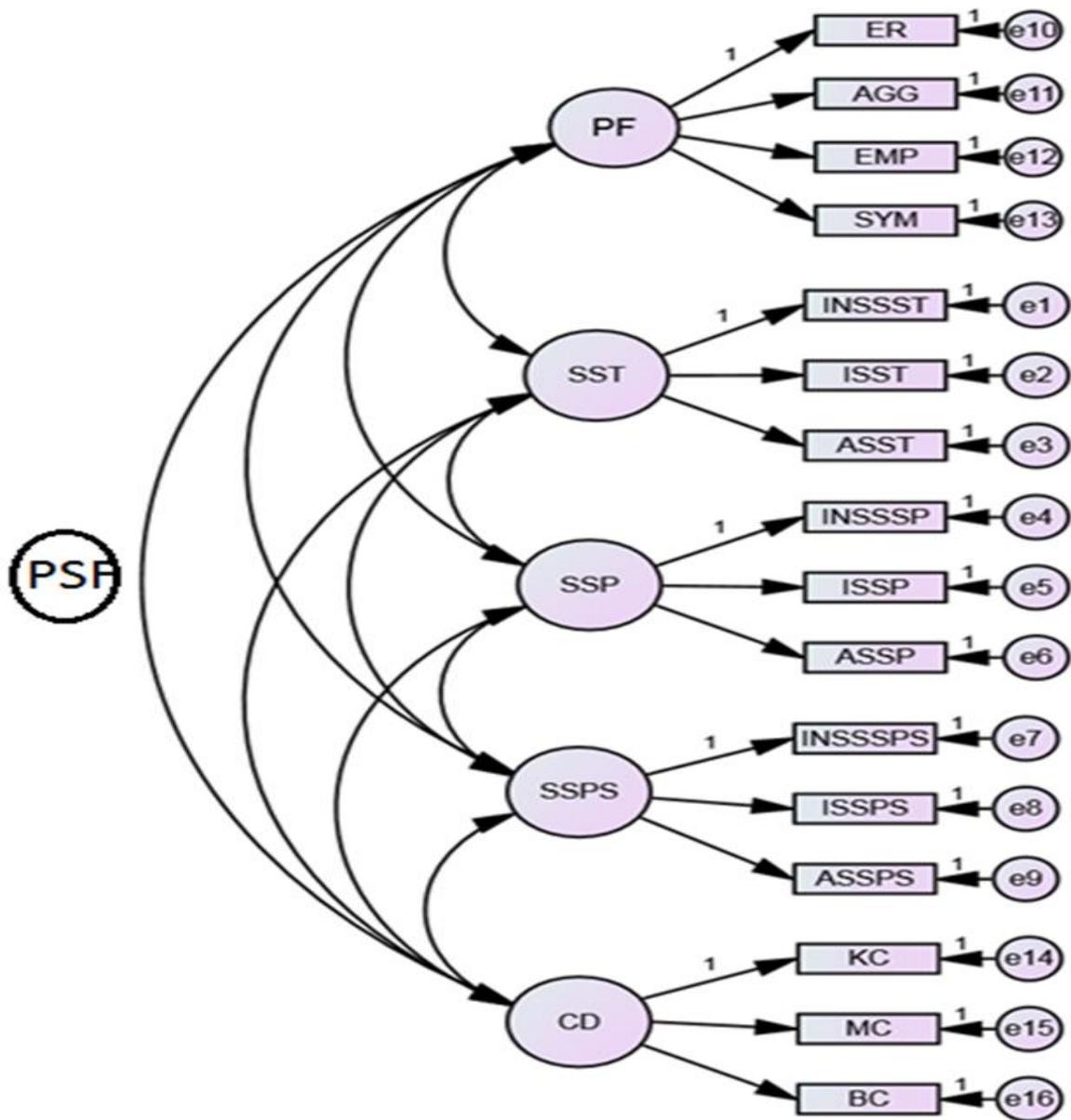


Figure 5.2: Final Fit Model for social support (from parents, teachers, and peers)

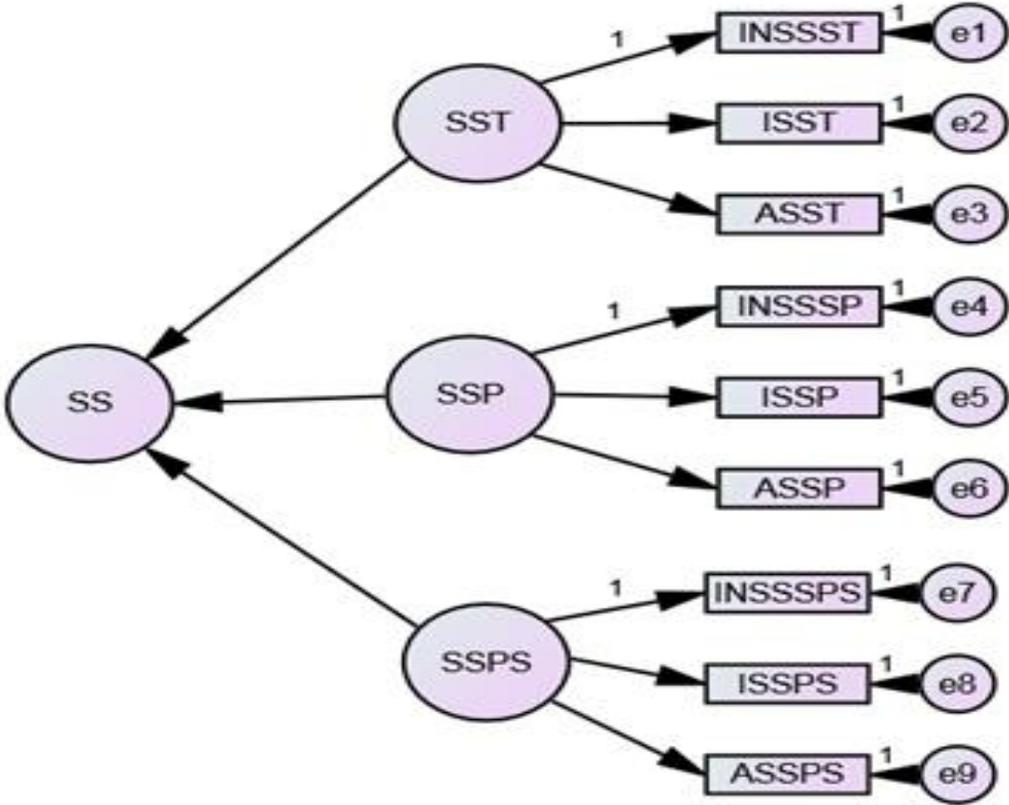
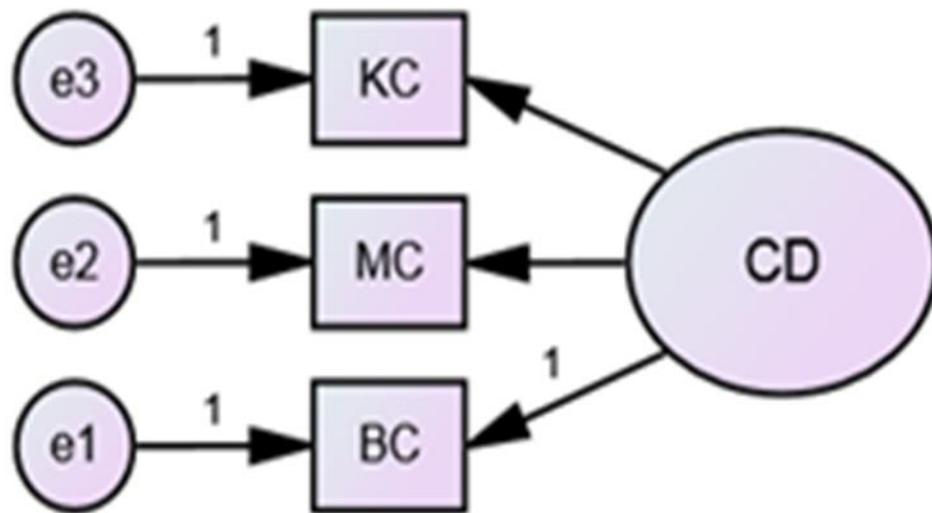


Figure 5.3: Final Fit Model for cultural differences



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Table 5.21: Correlations of predictor level of peer interaction and psychosocial factors and among participants

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	1																
2	-0.052	1															
3	0.117	-0.036	1														
4	0.089	0.148	-0.06	1													
5	0.17	-0.052	.308**	-0.08	1												
6	.224*	-0.095	.372**	0.125	.382**	1											
7	0.165	0.008	0.187	0.144	.271*	.594**	1										
8	-0.099	0.159	0.134	-0.08	0.195	0.083	0.083	1									
9	0.056	-0.018	0.056	0.055	0.082	0.055	0.103	-0.17	1								
10	0.17	.296**	0.117	0.089	0.17	.224*	0.165	0.048	-0.13	1							
11	.b	.b	.b	.b	.b	.b	.b	.b	.b	.b	.b						
12	0.048	-0.026	0.134	0.105	0.195	.250*	.308**	.376**	0.083	0.195	.b	1					
13	.255*	0.059	-0.08	.217*	0.13	0.04	0.115	0.154	-0.15	.255*	.b	.420**	1				
14	0.084	-0.158	0.058	0.17	0.196	0.008	-0.03	.227*	-0.15	-	.b	.227*	.248*	1			
15	0.098	0.007	-0.09	0.04	-0.134	-0.115	-0.193	-0.13	0.038	-	.b	-0.13	-	0.2	1		
16	.254*	-0.013	0.175	0.005	-0.056	.217*	0.009	-0.04	0.064	0.047	.b	-0.04	0.007	0.04	.233*	1	
17	-0.018	-0.066	0.067	0.04	0.098	-0.115	0.074	.245*	0.038	-	.b	.245*	-	.294**	0.026	0.06	1
										0.134		0.047					

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

b Cannot be computed because at least one of the variables is constant.

5.4 Conclusion of the chapter

The current chapter has presented and interpreted the quantitative results of this study. It can be reminded that the demographic features consisted of 83 participants of which 62.7 % were females and 37.3 % were males for gender variable. Also, 65.1% of participants were aged between 14 and 16 years while 34.9% participants were aged between 17 and 19 years old for age variable. In terms of selection from the various schools, 47.0 % of participants were from the school A, 45.8 % of participants were from the school C, and 7.2 % of participants were from school B for high school. Moreover, 42.2 % of participants were in grade 9, followed by 30.1 % of participants who were in grade 8, and 15.7 % of participants were in grade 11, whilst, 7.2 % of participants were in grade 12 7.2 %), and finally 4.8 % of participants were in grade 10 for the variable grade level. With regard to nationalities, 98.8 % of participants were Congolese of nationality from DRC, while 1.2 % were Brazzaville Congolese. In this chapter the hypotheses were tested, especially those that are concerned with the relationship between psychosocial factors and peer interactions through gender, age and grade level. It

interprets the final model fit for psychosocial factors including psychological, social support from teachers, parents, and peers, and cultural differences.



CHAPTER 6

QUALITATIVE RESULTS: DATA PRESENTATION AND INTERPRETATION

6 Introduction

In the previous chapter, the researcher presented the data collected from quantitative results including psychological factors, social support from teachers, parents, and peers, cultural differences, and the level of peer interaction among participants in three selected high schools in the Western Cape Province. This chapter presents the results of participants' biographical information. It further presents the qualitative results generated from semi-structured face-to-face interviews, through a thematic analysis process. The chapter finally interprets the qualitative results before discussing some ethical considerations such as trustworthiness in terms of transparency, credibility, and transferability of results.

6.1 Biographical information from participants

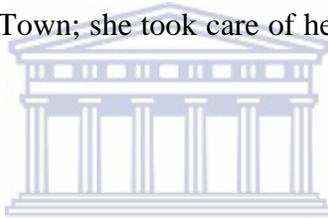
This study collected information on participants' biographical information from ten (10) participants including 5 girls and 5 boys at three high schools in the Western Cape. All the participants declared to be Congolese originating from DRC and they gave their life experiences including demographic details, language fluency, residential areas, parents' occupation, and future vision. This study indicates that all participants were eager to participate in the research and that answers from participants did not show any differences in terms of biographical background information. For that reason the researcher could not categorize the variables such as age, residential areas, and grade level of the participants in this study. The qualitative results from individual interviews are shown in Table 6.1 below.

Table 6.1: Qualitative results from individual's interviews

High schools	Gender		Total
	Males	Females	
School A	1	3	4
School B	3	1	4
School C	1	1	2
Total	5	5	10

Participant 1

Participant 1 was a 15-years old female. She was a grade-nine learner at school A. She lived with her elder sister in the urban area, in Parow. She said that her elder sister was married and worked in Cape town, and that her father died two years ago while her mother, a business woman living in the D.R. Congo sponsored her studies and visited her once a year. Participant 1 also reported that she and her sister's family shared an apartment with two occupants and that she had four (4) close friends at school and one friend (1) at home. Participant 1 spoke French and Lingala fluently, but her proficiency in English was poor since she had only been in South Africa for thirty (30) days. She mentioned that she would like to become a journalist or a singer although her mother wanted her to be a lawyer or an attorney at law in the future. Her hobbies were watching soccer matches and going to beaches and restaurants during her spare time including weekends in Summer. In the D.R. Congo, she belonged to a Luba cultural tribe. This was because her sister worked in Cape Town; she took care of her younger nephews and nieces after school.



Participant 2

Participant 2 was a 17-years-old orphan girl living in the urban area in Bellville with her married elder sister and studying in grade 9 at school A. Her father died in 2004. Her mother was in Kinshasa where she worked in a communication company. She said that her mother always visited her during December holidays and declared not to have a close friend at home where her sister's family shared an apartment with other two (2) families. However, she said that she had four (4) close friends at school. She spoke English, French, and Lingala fluently. She had been in South Africa for nine (9) months, but she took a three-month intensive English course in an English learning centre in Cape Town before she enrolled in high school. She also made an effort to speak English both at home and at school in order to improve her English. She said that her elder sister did not want her to do anything apart from focusing on her studies. Therefore, she only washed her uniform and did her homework after school.

Participant 3

Participant 3 was a 17-years-old girl. She was a grade-eleven learner at school A. She lived with both parents in South Africa. Participant 3 said that her father worked in Cape Town, but that she did not know his workplace. Her mother braided her in a salon. Her family lived with two other occupants in an apartment in Elsie's-river municipality. Participant 3 spoke English, French, and Lingala fluently. She had been in South Africa for 4 years. After school, she said that she stayed at home revising her lessons and doing her homework. She said that her brothers and sisters sometimes assisted her with the homework. During her spare time, she watched movies on TV and every Sunday, she went to church to worship God the creator. She mentioned that she learnt English from friends who helped her by and explaining her English words in Lingala. The participant also mentioned that she experienced many challenges while learning English since it was difficult to speak and understand the language that she could not master without the help of friends, who played a significant role during the learning process.

Participant 4

Participant 4 was a 17-years-old studying in grade 11 at school B. She lived with her father and three younger sisters in Bellville, which is in urban area. Her parents were divorced and her mother had stayed in Kinshasa, DR Congo. Her father was specialized in fixing fridges. At school she had six close friends but none at home. She spoke fluent French and Lingala, but she could not express herself in English even though she had been living in South Africa for twelve months. She did not attend an English learning centre, but she read many books written in English, watched movies, and particularly cartoons in order to understand the English language. She intended to become a company manager in the future. She used to play basketball during her spare time.. At home, her father hired a former teacher who assisted her with her explanations of the material learnt at school and with her homework. Every Sunday, she went to church.

Participant 5

Participant 5 was an 18-years-old boy studying in grade 10 at school B. He lived with his brothers and sisters in an urban area in Blackeat. His father worked as an administrator and his mother was jobless. Both parents lived in D.R Congo. He said that his studies were funded by the Western Cape Department of Education. After school, he usually did his homework and revised

his notes. He revealed that he shared an apartment with nine people. He had five friends at school and two friends at home. He was fluent in Lingala, French and English. He has been living in South Africa for six years. He experienced language challenges during his first month when he arrived in South Africa and could not perform well at school. He therefore used strategies such as watching cartoons, reading stories, and listening to songs, and building good relationships with his South African colleagues with whom he spoke English. He confessed that the adopted strategies helped him to improve his English reading and speaking skills and to obtain good marks in grades 8, 9, and 10. During his free time, he played soccer or golf.

Participant 6

Participant 6 was a 16-years- old boy studying in grade 9 at school B. He lived with his father in an urban area in Kensington. His father was a pastor and a businessman running his own business. His father was the one to cover his needs including school fees. His mother died in 2009 in Lubumbashi, Congo (DRC). He had three close friends at school and at home. He was fluent in English, French, and Swahili. He had been living in South Africa for one year. He said that before arriving in South Africa, he did not understand any English, but that he did not attend any English Language learning center. He learnt the English Language on his own whenever he did the shopping or used English with friends, but he was sometimes assisted by his brothers and sisters. During his free time, he did his homework and read his notes. On Sundays, he always went to church. After church, he played soccer with friends. He was from Lunda culture which emphasizes respect for others, not to having problems with people, that is, living peacefully with others, and in safeguarding one's culture.

Participant 7

Participant 7 was a boy aged 15 years old and studying in grade 9 at school B. He stayed with his elder brother in the urban area of Parow because his parents were in Congo DR, where his father worked as a professional medical doctor and his mother as a nurse. Participant 7 mentioned that he lived with three people in the same house and that he had only one close friend at home whereas he had six (6) friends at school. He had a good command of English, French and Lingala. He learned and improved his English in one year due to strategies such as the regular use of the language with his sister once at home and with school friends. However, he confessed

that he was so intimidated by school colleagues because of his poor English proficiency and his being a newcomer that he found his first year in South Africa too boring. He had been living in South Africa for four years. During his free time, he played soccer and used social network media to chat with church's and school's friends on phone. He wished to be a gospel musician and to play music instruments such as drums, the piano and base guide in church.

Participant 8

Participant 8 was a 16-year-girl living with her elder sister in an urban area, Bellville. She studied in grade 8 at high school C. She was bereft of her father in 2000, when she was 3 months old. She said that her mother was her father's third wife and that she run some business. She lived in a flat shared with three other persons. She had never been to the learning centre for English, but she had only one friend who helped her improve her English and she regularly watched movies and went to do the shopping in order to improve her speaking skills. She said that she had been living in South Africa for only one year. After school, she cooked food for her younger brother and sister, did the washing and the washing up as well as the cleaning. Briefly, she said that after school she did house chores. After tidying up the house, she did her homework. On Sundays, she attended church services. She liked playing basketball, but her wish was to become a lawyer/ an attorney at law or a university lecturer.

Participant 9

Participant 9 was 19 year boy living with his parents with his siblings in the urban area, Parow. He is in grade 11 at high school A. He came to South Africa at the age of 10 years old. He declared that his father was a businessman and his mother was a medical doctor. His parents were involved in supporting his studies. He usually went back home (DRC) during the holiday to visit his family. His living conditions were good. He declared: "we are living in our own house that bought by my father, we are not renting". He had a good relationship with his parents; this is because they provided everything he needed. He has got many friends at schools. Every day after school, he first did his homework. With regard to his hobbies after school, he is passionate with swimming and soccer. He liked sometimes likes movies. Concerning his future career, he said that he wanted to be a businessman as his father. He is fluent in English, French and Lingala.

Participant 10

Participant 10 is a 20 year-old girl living in Cravenby with her elder brother. She studied in grade 12 at high school C. She said: she had been fatherless since 2010 and that her mother was unemployed, but that she attempted to do small business in Lubumbashi in D.R Congo. She said that she had many friends from church and two close school friends. After school, she focused on reviewing her notes, doing her homework, and watching movies on TV. She also liked playing soccer. She aspired to become a university professor. She spoke French, English, Lingala and Tshiluba fluently.

6.2 Semi-structured face-to-face interviews

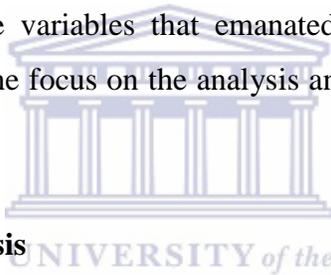
The researcher conducted semi-structured face-to-face interviews to collect data. These interviews were a good instrument in terms of value and richness. The interviews allowed the ten participants to explore their own life experiences without being influenced by set responses (Stephens, 2007). They also helped to find out what positive and negative factors could influence their interactions with peers in their respective high schools. Further to this, the face-to-face interviews helped the researcher to develop an understanding of cultural differences among participants due to follow-up questions relating to individual participants' answers, which helped to clarify some statements. Only learners who were willing to participate in a friendly and cooperative way in this study were interviewed. The collected data are provided in the next sections. However, it goes without saying that the interview process was fully completed without any incident and that only answers elucidating the research questions are provided without bringing any modification to the participants' accounts in order to remain faithful to their accounts and highlight the language-related difficulties some participants currently encounter.

As mentioned in Chapter 1, this study had a two-fold aim: to determine positive factors that can lead participants to interact with peers at high school in the Western Cape and to determine the negative factors that can lead participants to interact with their peers in the selected high schools in the Western Cape.

Based on the above-mentioned objectives, the researcher formulated the research questions below:

- a. What are the positive factors that can lead francophone adolescent learners to interact with peers at high schools in the Western Cape?
- b. What are the negative factors that can lead francophone adolescent learners to interactions with their peers at high schools in the Western Cape?
- c. How do francophone adolescent learners in high schools in Western Cape understand cultures differences?

A thematic approach to data analysis was employed and this approach is worth clarifying although it was described in detail in Chapter 4. A checklist was employed as a tool to facilitate the analysis and interpretation of the results. Table 6.1 showed overviews of themes and sub-themes on positive and negative factors influencing peer interaction among participants. This overviewed allows identifying the variables that emanated from the results of the thematic analysis. The next section turned the focus on the analysis and interpretations of qualitative data to the study.



6.3 Conducting thematic analysis

As mentioned in Chapter 4, a thematic approach to qualitative data analysis was employed in this study. This approach follows different stages which include data organisation, familiarization with the data, data coding, the identification of themes and sub-themes, and the examination of the themes.

6.3.1 Data organization

The gathered data were transcribed in accordance with the participants' ID numbers. Confidentiality was secured in order to protect the schools' and participants' identities. The researcher removed identifiable names from transcripts and used pseudonyms instead of the original names. In addition, a complete list of data sources to be used for reference during the analysis was compiled on the very day when the interviews were conducted. The researcher endeavored to do minor editing and formatting of data. A file consisting of printed hard copies was also established to back up and store transcripts and avoid losing data at the beginning of the analysis stage.

6.3.2 Familiarization with data

Familiarization with data is an essential stage before dealing with formal analysis. The researcher familiarized with the data through several careful readings and re-readings of participants' transcripts. Throughout the analysis, the researcher actively engaged with data having a conversation with all transcripts, asking himself questions and making relevant notes in the margins. The research indeed sorted out relevant information focusing on texts that reflected positive and negative factors influencing peer interaction and on factors highlighting cultural differences.

6.3.3 Data coding

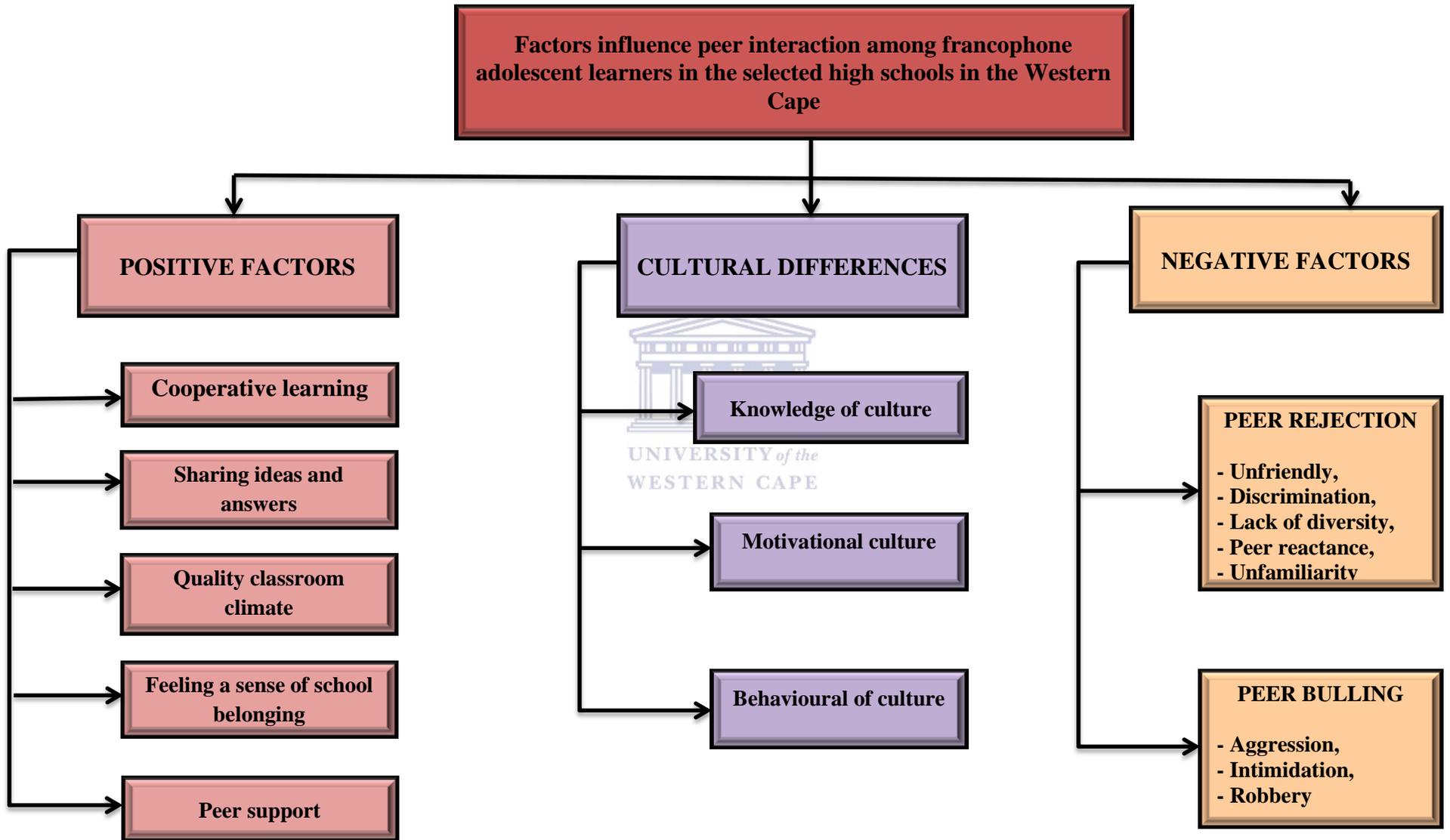
After the researcher's organisation of and the familiarization with the data, the researcher relied on the evidence presented in the transcripts, the literature, and the conceptual framework which underpin the current study in order to establish interpretative categories. This study used codes to present emergent statements or concepts that were highlighted with a pen in order to connect with the data and facilitate the comprehension of the participants' peer interaction. The researcher did preliminary coding as required in a thematic analysis approach in order to identify connections and develop pattern codes. This consisted of categorizing patterns coded together from what participants stated, sharing their personal life experiences, attitudes, belief systems in various forms depending on whether they were similar or different since they ought to have something in common or to be paradoxes. The researcher returned to the research questions (see Section 6.3) for better understanding and in order to carefully examine the transcripts and see whether positive and negative factors affecting peer interaction and cultural aspects were presented in the rest of the sample. For example, the general code *positive factors* was linked with themes to capture the diverse ways in which positive factors were relevant to peer interaction at schools. The researcher started doing some coding and developed observations in connection with peer interaction and other factors. Broad labels and coding interview texts were created for further review.

6.3.4 Identification of the themes and subthemes of peer interactions

This stage consisted of identifying the basic themes, groups of comments made and participants' detailed rich experiences. The themes had relationships among categories and implied some

ideas about these categories. From the study two matrices emerged that were divided on very large sheets. Each matrix was vertically inscribed and comprised the participants' pseudonyms, and the interview questions asked were horizontally inscribed in a detailed form. Abbreviated participants' responses to the questions were also recorded in the corresponding rows (squares). A structured framework was provided to allow the researcher to distinguish similarities and differences in-between data. A total of two main themes that clustered under seven sub-themes was produced (see Table 6.1), and peer interaction was identified as a theme that emerged from coding. The two themes classified from interviews with the participants were examined together. The researcher initially categorized the participants' responses and found them to be linked into positive factors and negative factors of peer interaction. *Positive factors* of peer interaction was examined as a major theme and its related sub-themes included (a) cooperative learning, (b) sharing ideas and answers, (c) quality classroom climate, (d) feeling a sense of school belonging, and (e) peer support. The other major theme labelled *negative factors* of peer interaction included the following subthemes: (a) peer rejection: unfriendliness, lack of peer support, lack of understanding of diversity at schools, peers' reluctance, and unfamiliarity, (b) peer bullying: aggression, robbery and intimidation which were studied together. In order to make sense of the connection existing between the identified themes and sub-themes during this analysis process, a diagram (see Figure 6.1) was developed.

Figure 6.1: Interconnection existing between identified themes and sub-themes.



6.3.5 Examination of themes interpretative mode

The final step consisted of examining the themes through the interpretative mode which is concerned with one's personal interpretation in relation to themes and sub-themes. These were used as responses to the research questions in this study. The researcher checked the emergent themes.

6.4 Overview of themes and subthemes of peer interactions

Table 6.2: Checklist of the themes and sub-themes among participants

Themes	Sub-themes		Participants										
			P ₁	P ₂	P ₃	P ₄	P ₅	P ₆	P ₇	P ₈	P ₉	P ₁₀	Total
Positive factors	Cooperative learning		X	X	X	X	X	X	X	X	X	X	10
	Sharing ideas and answers		X	X	-	X	X	X	-	X	X	-	7
	Quality classroom climate		X	X	X	X	X	X	X	X	X	X	10
	Feeling a sense of school belonging		-	X	X	X	-	X	-	X	X	X	7
	Peer support		X	X	X	X	X	X	X	X	X	X	10
Negative factors	Peer rejection	Unfriendliness	X	-	-	X	-	X	-	-	X	-	4
		Discrimination	-	-	-	-	X	-	X	-	-	-	2
		Lack of understanding of diversity at schools	X	-	X	-	X	-	X	X	-	X	7
		Peers' reluctance		X	-	X	-	X	X	X	-	X	6
		Unfamiliarity	X	X	X	X	X	X	X	-	X	X	9
	Peer bullying	Aggression	X	-	X	-	X	X	-	X	X	X	7
		Intimidation	X	X	X	X	-	X	X	X	X	X	9
		Robbery	X	X	X	X	X	X	X	X	X	X	10
Cultural differences	Knowledge cultural		X	X	X	X	X	X	X	X	X	X	10
	Motivation cultural		X	X	-	X	X	X	-	X	X	-	7
	Behavioural cultural		X	X	X	X	X	X	X	X	X	X	10

6.5 Theme 1: Positive factors influencing participants' peer interactions in high schools

The analysis of participants' interviews helped to identify positive factors that influenced their peer interactions at school. The participants explained how interaction with their peers was sustained in the classrooms. This question was responded by ten participants and their responses were analogous and exceptional. It was very interesting to note that there were no differences of answers in terms of biographical background information among participants. Due to this analogy, it was not necessary to categorize themes according to age, gender, residential areas, grade level, and school's name. The next sections describe the four sub-themes enumerated earlier.

6.5.1 Cooperative learning in classroom

During the interviews all the ten participants (P₁, P₂, P₃, P₄, P₅, P₆, P₇, P₈, P₉, and P₁₀) said that they preferred to work with their peers (cooperative learning) in a structured context under teacher's direction. In such a learning environment, participants frequently expressed themselves, and intellectually engaged in conversations with peers. Participants were all excited and they all enjoyed their subjects, especially work done in the classroom and even after school. Participants explained that collective learning improves their quality of peer interaction through their beliefs in academic performance and in their own aptitudes. Participants argued that learners invited friends in order to do school activities and assignment projects together, as a group. They engaged in debates around their assignments basing on their belief systems. Interaction with peers reinforced their social and intellectual capacities at schools, and enabled them to construct knowledge and make decisions on school issues. The following extracts can help illustrate this:

“Other learners are able to express me an interest to join a group. I was invited by others [with friends] to work together [ceux-ci, je les connais bien et on travaille ensemble].....it seems like there were always there for me...and they responded positively to me”

“During the Math class, the teacher teaches and explains I don't understand nicely or very well, when we work together with my friends from my country DRC, they explained to me in lingalla, we work together, I can understand properly and together we can formulate a good conclusion, than by myself will been stuck ”(Participant 5).

“C' est facile de travailler en groupe avec les amis de la même classe, ca m' aide de comprendre [it is easy to work in group with friends from the same class, it is helpful to understand] les devoirs en math, la majorité ne comprend pas mais c' est très facile comprendre avec les amis de la classe[the homework in math, the majority of us don't

understand in class after interacting with peers, we may find a solution and ask to the teacher if it was right]”(Participant 7).

From these extracts, it appears that the participants learnt to interact successfully with their peers. Through cooperative learning at school, interaction with peers allowed learners to heed one another's insights and solve interpersonal issues. Cooperative learning activities encouraged learners to share their learning experience and to collect resources. It provided them with opportunities to share learning achievements. Participant 5's view can help illustrate this:

“I was lucky to meet isiXhosa friends, they were very ambitious in their studies, when the teacher programmed a test in life skills or math, and they called me to work together in the group, we met for preparing the tests and exams....we work together, okay, these are type of questions we discussed about, what do you think about this, what do you use as method, how it works, how do you come by this and what do you think is the best way and why? ”(Participant 5).

The above-mentioned extract shows that participants enjoyed group work. Learners such as Participant 5 were eager to work with knowledgeable ambitious learners having a background different from his. Participants had great desire to improve their strength and quality of peer interaction through classroom cooperative learning. This is to suggest that group work facilitated participants' learning and understanding of the material brought to class. Group work appears to enhance positive interdependence, facilitate problem-solving skills by doing problem-solving activities, and to build social interaction skills in the course of their studies.

6.5.2 Sharing ideas and answers in the classroom

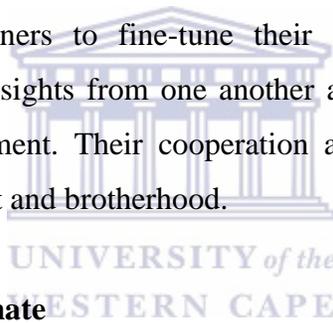
The analysis of participants' interviews has revealed that of the ten participants, seven participants (P₁, P₂, P₄, P₅, P₆, P₈, and P₉) mentioned that sharing ideas and answers help to promote peer interactions in the classroom. These participants said that they shared ideas when engaging about a project or subject in classroom, articulated to and mediated with their problems peers or classmates at school in order to generate solutions. These participants showed an interest to learn from peers' engagement, emotions, openness and trustworthiness. The following extracts from three participants serve to illustrate this:

“During English course, we discussed about the story from the textbook, for me, I have to, I must read and discuss with other friend who understand very well English and share ideas so during the exam it will not be a problem but if you do not share it is going to be difficult for you, because you don't know to read”(Participant 6).

“Discussion in natural science, experiment of plant, the teacher said to me, I must put only the keywords or main name, if anyone knows or have an idea can also add...in technology, we give ideas, bring tools to build the bridge at school, so we can build it, share ideas and finish on time and we help one another to refine each other’s point of views” (Participant 8).

“Sometimes I don’t understand, one of my classmates will do it very well.... Math it was a good example for me, I was lazy, at home I have an answer, another had his answer as well as, and we are going to see which one is the correct, trying to find out which one it is the best answers, let write it...I learnt something, I know my colleagues brought something new to what have and to what I may not have in my mind” (Participant 5).

The above three extracts are an indication that sharing ideas and answers in classroom can be a positive factor that could influence peer interaction among participants. Classroom interaction gave learners the opportunity to share their ideas, answers, and thoughts within their peer groups in classrooms. It also helped the participants to develop tolerance and good listening skills, which are an ability to understand classmates without any partial attitude. Further to this, classroom mediation helped learners to fine-tune their answers and to meet submission deadlines. Learners gained new insights from one another and catered for one another so that they could all reach good attainment. Their cooperation appears to be a symbol of mutual understanding, humbleness, respect and brotherhood.



6.5.3 Quality of classroom climate

The analysis of participants’ interviews has also revealed that all ten participants (P₁, P₂, P₃, P₄, P₅, P₆, P₇, P₈, P₉, and P₁₀) confessed to be warmly collaborating with one another. These participants said that this warmth positively influenced their interaction with peers at school, particularly when engaging in Mathematics, Technology, and English and this helped them to develop mutual respect in the classroom. These participants all felt enthusiastic and they oriented their objectives towards participation in classroom discussions during which they could share emotional learning experiences, be an energetic resource for knowledge development and problem solving. Four of the ten participants declared the following:

“When the teacher asks a question sometimes I know the answers but I keep quiet, I try to do better, next time”. We always feel it, when the teacher taught our own favorite subject, we feel all good, exciting we are doing our subject, we feel nice, when they ask the questions I know, I will keep my answers, because I read it at home....it depends on the teacher, certain teacher make you understand the work, but not all teachers did it” (Participant 8).

“If we are discussing about answers in class, for example, five of us got different answers, we will see the teacher to explain which one is a good, she will tell us the good, we will see who was right, this created all time a warm in the class” (Participant 5).

“Maintenant je me sens à l'aise dans ma classe, je suis fier d'appartenir à cette classe [Now, I feel comfortable in my classroom and proud of belonging to this class]” (Participant 7).

“In Math subject, my teacher asks a question I rise up my hand, I answer, it was wrong, I don't know. And my colleague encouraged me; I am always feeling comfortable to be in my classroom” (Participant 8).

The above-mentioned excerpts show that the ease with which learners mediated meaning and constructed knowledge classroom climate contributed to their interaction with peers in high schools. They also show that both good teachers and peers encourage weak learners to participate in discussions, and this makes the latter to feel warmly catered for.

6.5.4 Feel a sense of school belonging

Another predominant theme that emerged from the analysis of participant' interviews was the sense of school belonging, and this was believed to contribute to the participants' interactions in schools. Of the ten participants, nine (P₁, P₂, P₃, P₄, P₆, P₇, P₈, P₉, and P₁₀) revealed that feeling a sense of school belonging was an advantage that contributed to their interactions with peers in high schools. These participants reckoned their being members of the school community through their interaction with peers regardless of language challenges and national origins. They said that they felt so close and connected. Their close relationship always made them feel the need to belong to the school or classroom network since their peers treated them with affection. These participants appreciated the sense of belonging which characterized them at school, mainly in their respective classrooms. Friendship was a component of the sense of belonging and influenced peer interaction at school. Participants confessed to experience a feeling of lack of belonging or disconnection at their arrival at a new school, but they said that they could actively engage themselves in making friends at school. Their endeavour to make friends allowed them to feel a sense of belonging. This can be illustrated through the following extracts from three participants:

“When the class was opened, it was boring, I make a friendship with other colleagues in order to make me comfortable at school....., as Congolese, I don't

know anyone at school, I feel alone, out.....I don't understand what the teacher is talking, ... I didn't like to belong in this school or classroom...but two months later was such perfect for me , now I feel more be connected to the school community and now I have been involved at schools environment...I feel great with my closer friends but I am not good with other ” (Participant 2).

I fell very deep goodness, [Je suis a laise] ...I am involved in school.... I feel like close to my friends to belong all of us to keep us until to finished our high school, with them until matric, that they will call us the good workers or hard workers”(Participant 7).

“I feel belong to the class, the teacher make me nice understand the work in class. He helps me with other learners in class.... When I get good marks my classmates make me feel welcome in the class, like greetings in the morning,even when we are in class mixed all grade 8, if I did not get a place to seat, one colleague call me and said to me, come and seat here with me ” (Participant 8).

“Ils accueillent bien dans la classe, même si je ne connais pas de réponses, les collègues m'aident avec amour, je me rappelle le jour de l'examen d'English, j'étais seule, je ne comprenais pas, lire, écrire, je ne savais rien, je stresse, je pleurais. Mon ami est venu auprès de moi et me demandant ce qui ne va pas. Et elle était allé voir le teacher pour lui expliquer mon cas, tel que je suis nouvelle ne comprends pas la langue bien, et elle m'avait assisté, me consoler, encourage moi en disant ça ira bien” (Participant 9).

The participants' interviews revealed that they felt isolated when they were new comers at schools, but that soon after the school had started they made friends and felt a sense of belonging and close connection with the larger school community. This can be seen in the following extract:

“Children make fun of me...I feel like to drop out school....This is my closer friend she is coloured, she is cool, I am a Congolese, we are friends we are together at school, she introduced me to her friends” (Participants 10).

Friendship and peer acceptance helped participants in the current study to feel likely to belong to their respective classrooms/schools and be secured.

6.5.5 Peer support

The notified scrutiny of participants' interviews has also revealed that all the ten participants (P₁, P₂, P₃, P₄, P₅, P₆, P₇, P₈, P₉, and P₁₀) received either emotional or informational support from peers. This support constituted a positive factor that allowed their interactions with peers at school. Participants mentioned that they could bring their actual problems to peers who gave

them support. For example, participants said that brilliant students gave them advice regarding ways in which they could study in order to perform well at school. Participants acknowledged the usefulness of peers in terms of supportive skills that they benefited from in Afrikaans and English courses. The following abstract from one participant confirms this view.

“Yes they help me to talk nice English, the advice me that I must be careful, I must not have a problem with teachers, must behavior and respect people, teachers and myself at school, I remember it was difficult to speak understand the language, friends were played an significant role to help and advise me during that time of learning process. They were able to explain me what we studied at break time, and help me with my homework after school” (Participant 4).

It is obvious that learners gave support to those in need of help through pieces of advice related to school conduct and lessons and through explanations of the material they had not understood. These participants told their colleagues the academic challenges they encountered and which prevented them from reaching high levels of achievement. Their peers helped them with advice which could promote their thinking skills and encourage them to aim high as far as academic achievement was concerned. Participants had the impression that their peers were always available for them whenever academic support appeared to be necessary. Participants expressed their pride at being able to bring change in their life’s experiences:

“It is a real opportunity for me, when I ask for help, I do have a help from others learners in our class, if I don’t understand what the teacher said, eventually I ask him, what I must do here, it was interested they do give you, show, and explain what to do. Sometimes, my colleagues come to me and ask for help, good advice. I am good in math, I should not stress about myself” (participant 8).

From the above extract, it is obvious that teachers were eager to help participants with language difficulties to understand the materials brought to class and that these participants also felt free to ask the teachers questions when they did not grasp a lesson. It also appears that participants gave support to their peers. One case was that of participant 8, to whom classmates asked for explanations in Mathematics. Despite his limited English, this participant could help his peers understand Mathematics. The support learners gave one another was probably aimed at cultivating social and emotional competencies. The following extract can serve to illustrate this:

“If I want my own school study without people, it can be a risk for me to fall, if we are sharing together in group all of us we make a marks to pass, that we will not worrying about school if you are sharing together, it will help, one day to do a such as good jobs”.

“At school, I meet some learners interested to interact with you, I learnt how they think, live, they fall with subjects that you did last year than you can help to do a good working” (Participant 5).

The implication from this extract is that without peers' help, participant 5 felt that he could fail. On the contrary, interaction with peers appears to be a source of confidence and good academic achievement, develop learners' critical thinking and prepare them for their future professions. Seemingly, academic support and emotional support from peers could promote interaction at school:

“She did a lot for me, like when I am absent she will give me her notes books she will explain and we will go over it together” (Participant 5).

There appears to be strong collaboration among participants and their peers. Cooperation goes to the extent that when a learner was absent from school, a peer could take notes that he/she could lend him/her before providing him/her with explanations. More knowledgeable peers also assisted participants with low English proficiency after class. This can be illustrated in the following extract:

“As we are from DR. Congo, French was my first language, I lived with one colleague from my school in the same apartment, you know, she was assisting me with Afrikaans and English subjects, she was a really friend, she accompanied me along everywhere, it was like one and two ...” (Participant 9).

This extract shows that even after class some learners with knowledge of Africans and English provided academic support to foreign peers who encountered language-related difficulties as far as the language of instruction was concerned. This academic support helped alleviate and/or remove communication barriers in Afrikaans and English such as poor comprehension, reading and speaking skills.

The aforesaid extracts (see 6.6.5) reveal that peer support influenced participants' interactions with peers. This implies that participants who privileged peer support seemed to find solutions of their difficulties. Support from peers was considered as a positive factor influencing peer interaction among participants at schools.

6.5.6 Participants' autonomy

According to all participants (P₁, P₂, P₃, P₄, P₅, P₆, P₇, P₈, P₉, and P₁₀), interaction allowed them to gain autonomy in classroom, that is, to depend less on peers or teachers' thinking. Participants said that the exchange life and/or academic experiences with peers helped them to understand their peers' point of views and to become autonomous. For example, Participant 8 said the following:

“I don't want always look to what the teacher gave for solutions, I preferred to look on my own ..., but I get to interact more with my other children from my class” (Participant 8).

This extract shows that Participant 8 was proud of finding solutions on his own rather than relying too much on teachers' solutions. When necessary, this participant preferred to seek solutions through interaction with peers. By the same token, most participants said that peer interaction among adolescents made them become autonomous. Put differently, listening to peers' input provided my participants with informative rather than summative feedback.

6.6 Theme 2: Negative factors that impede peer interactions at schools

Some negative factors influenced participants' interaction with their peers at school. When asked to answer questions relating to peer rejection and peer bullying, participants confessed that they were faced with unfriendliness, reluctance, ignored, intimidation, robbery, and lack of peers' support at schools. Participants in this study appeared to be rejected by their peers or disregarded at schools.

6.6.1 Peer rejection

The analysis of participants' interviews revealed that peer rejection was a factor that leads to lower quality of peer interaction at schools. All the nine (P₁, P₂, P₃, P₄, P₅, P₆, P₇, P₈, P₉, and P₁₀) indicated that their peers felt deliberately to display these rejection behaviours in classroom. These participants experienced a lack interested, unfriendliness and unfamiliarity, and they felt ignored by their peers when they attempted to approach, play or interact with them. Rejection behaviours appeared to be deliberately showed in classrooms and pushed foreign learners to play with their fellow foreigners during break time. The following excerpts from one participant illustrate this point.

“Obviously, I like to campaign with other friend at school, because I love them, it very encouraging and motivating to be together to share our dreams for the future, others don’t want, they ignored your presence, it is not good, not friendly personally I don’t appreciate that... I chatted only with black, Congolese at school...” (Participant 3).

This extract implies that participants liked being with their peers who had South African nationality in order to share their dreams for the future, but some learners were reluctant to converse with them probably due to racial discrimination attitude, participants abhorred as it prevented them from socializing with their peers. Racism is better highlighted in the following extract:

“To be honest with you our class is racist, there is a side for coloured and south African, and other not south African, it is difficult to cooperate... you see..., for example, when you walk during break time, you will always see coloured standing together, and you keep look at other side, you will see isiXhosa sitting together, and Congolese sitting to their side, but I am not care about all of it, I have to come with thinking, even when they do things like that, they don’t like you, because they don’t really what is your capacities, who you are ...” (Participant 5).

Interaction with South African peers at schools was negatively influenced by some learners' racist attitude. There was practically no way for all learners to interact as rows and social networks were made according to skin colour and national belonging. Obviously, lack of understanding of diversity at school negatively impacted on foreign learners' interaction with South African peers. However, findings indicate that participants made efforts to interact with their peers, who probably did not approach them due to ignorance of their intellectual capacities. In other words, if some South African learners had known foreigners' intellectual capacities, they would have approached and collaborated with them. Furthermore, participants in this study said they experienced another form of ill-treatment. For example, Participant 1 complained about the following facts:

“Sometimes, they make noise; the interrupt the teacher during the session they are not interested to the teacher said I don’t understand, and they don’t care about what the teacher is talking in class”. Those failed last year, when I go to them, they laugh at me, you feel like you are fun ... I feel like I was, need to stop this...” (Participant 1).

This extract shows that South African learners disturbed the teachers regardless of the participants' presence in the classroom. These learners (South African) prevented their peers with

a French-speaking background to follow the teacher as required so as to ask questions. When any questions are asked, South African fellows made noise which did not permit participants to understand the teacher's explanations. It also appears that South African learners mocked foreign peers, whom they made feel funny. This led to foreign learners' need to stop approaching them. Thus, factors such as unfriendliness and reluctance negatively influenced participants' interaction with peers at school. For example, three participants said that they struggled to make friends in an Afrikaans speaking school, but their efforts were in vain in that Afrikaans-speaking learners rejected them to such an extent that they felt totally disconnected from the rest of the school community. Participants further acknowledged the presence of cliques in classes or at school which resulted in a certain psychological disconnection from classroom experiences. Two participants said the following:

“Some learners are not behaviour at school, our teacher said keep quiet they even care they making high noise through to other learner”... if one learner want to fight with another, the teacher said stop what you want to do, he does not even care, he just want to fight, ... they make you feel like you are not belong here, some stuff like that.....you know” (Participant 6).

“Actually, in my class, school, there are some groups all over, when we walk at school we are seating in cliques you always see coloureds sitting together, black sitting together, and foreigners settings together, it is complicated..., like certain children have friends according to grades level or don't like other people” (Participant 8).

Indiscipline in the classroom regardless of the presence of people with another or other cultural backgrounds is once more mentioned. Thus it is clear that foreign learners live a kind of cultural chock which makes them feel as if they did not belong to their own classes. Networks based on skin colour and origin also reveal that not all learners were familiar with one another. This lack of familiarity with peers at school could lead to lower quality of participants' interaction with peers. Nine participants (P₁, P₂, P₃, P₄, P₅, P₆, P₈, P₉, and P₁₀) acknowledged that, as newcomers at school, they were not familiar with their peers and that it was difficult for them to interact with these peers with an unfamiliar background. These participants clearly declared that school back home greatly differed from school in South Africa as it could offer more opportunities to be integrated into the community and to communicate with peers. Two participants who were of this view had to say:

“At home, you knew your people for a quiet time, it is easy and more relax, it is different, at school you need be careful, there is always fear, somebody will do something bad to you or whatever...”(Participant 1).

“It my first year to be in this school, I was not familiar to anyone even in my class, they don’t know me, I don’t even have a friends, I can’t express myself properly in English or Afrikaans” (Participant 4).

The above-mentioned extracts indicate that, at home, learners easily integrated in a new school environment because they knew their people, which were not the case in schools in the Western Cape, where a foreign learner could spend months without making a single friend and being known by anybody. This simply implies that peers were not interested in coming to know the foreign newcomers. Another extract can help illustrate this:

“Sometimes, other learners don’t know me, even don’t know ma value, it may not easy to approach me as a friend, but I respect them and they respect me even we are unfamiliar with other” (Participant 9).

What derives from this extract is that participants live their academic life without cooperating with peers who are not interested in knowing them and their value. Under this category of peer rejection, some participants showed that they were intimidated, ignored and unfamiliar, reluctant, and unfriendly with peers at school. However, not all participants experienced rejection. Only those who did not have a positive relationship with the larger school community or else encountered some peers with deviant behaviours and they felt excluded from the school community. Furthermore, findings show a level of peer rejection. At the beginning of an academic year, integration was not easy, but participants could gradually integrate themselves in the school community. The historical and cultural backgrounds could be a reason for peer rejection. However, friendship was seen as a key component for adolescents at schools for motivating a sense of belonging and emerging the feeling of safety, acceptance by their peers within schools. Peer rejection is an unfair behaviour at schools.

6.6.2 Peer bullying

None of the ten participants reported to have actively been involved in bullying, but they all (P₁, P₂, P₃, P₄, P₅, P₆, P₇, P₈, P₉, and P₁₀) confessed to have been intimidated and insulted by peers at school. Participants said they had been victims of bullying several times (at least four times a

month). These participants stated that diverse bully behaviours as such aggression, intimidation, or theft of valuable things were not isolated incidents but rather frequent incidents and that they especially happened during the day after school. They said that they were victims of indirect, verbal or physical bullying, and that they reported bullied learners to their principal and teachers. One participant mentioned:

“One learner in my class insult their peer’s everyday minutes after minutes, he does not care about teacher or whatever in the class, he call you ...rubbish....You are useless and good for nothing, go back where you are come from...Yes, when you try to focus on your work some children make noisy,...speak in Afrikaans... you tell them to keep quiet, they starting swearing again (insult)..., they said you will see after class..., as what they said they will attack you, some will ask, ...”(Participant 10).

Obviously, bullying acts took place both at school and outside of school. Not only were foreign francophone learners psychologically tortured because of their foreign identity that led to xenophobia, but they were also disturbed and prevented from properly following classes as the teachers appeared to be powerless in terms of discipline and classroom management. Afrikaans was used as a weapon to discriminate against them. Findings also indicate that they were intimidated, threatened and and that they were victims of extortion at schools. The following excerpt can serve as illustration:

“It is difficult What can we do.....sometimes they called us manes, make fun of you....based on who you are, they can’t see you with something value, or precious on you like a smartphone, nice watch... they will call their friends from outside and will attack you and what you have, phone, what is look nice... sometimes you do nothing, they stared asking money, can I have R1 or R2, give me your lunch, if you don’t have it, they just look at you, then intimidating you and warring you This people, their mind is not working right, people in my class are jealous, thieves. They can still your stuff easily in class” (Participant 3).

The bullying included nicknames, ridiculing funs, and robbery of valuable belongings. Sometimes, bullying would take on other dimension as it involved outsiders who helped bullying students to aggress others and to require them to give money as if for payment of a ransom. Bullying acts also took another dimension in that targeted learners were compelled to stay hungry after giving their lunch to the peer aggressors. Bullying learners are also marked by jealousy which pushes them to ill-treat their fellows, who found the former’s behaviour

abnormal. Other forms of bullying were hitting, fighting, and pushing and pulling by their peers after schools. The following excerpt from Participant 6 can help understand this:

“It was last Friday, we argued with one girl (coloured) from my classroom, ...there was a conflict and she slapped on me, I want to reply and then the teacher separated and sent us to the principal office... the problems was solved and counseled us by the principal, she forgave me and I also forgave her, after class, outside of school an unknown boy just come to me, he must of eighteen years old who have violently agressed me, and started fighting me, he pulled me down I bumped myself down and biting me with the stick, ... then he run away ...than my colleagues call for me the ambulance..., I went to clinic , they gave some medicine even now I am not really feel good. I have pain all of my body” (Participant 6).

This extract indicates that interaction between foreign learners and their South African peers was impaired by bullying behaviours such as fighting at school and outside of school. The majority of participants found that their peers' bullying attitudes negatively influenced interactions with them at school. Bullying attitudes and acts could be a factor that made participants feel rejected if not isolated from the large learner community isolation and so affected that they could not approach their peers at school. However, other participants in this study confessed to have never been teased, bullied or intimidated, ignored or neglected by peers at school. Still, peers' reluctance to talk to foreign learners or to approach native South Africans could be categorized as passive rejection or the fact of not having friends in a large group of peers. Reluctance to talk to learners from *the other group* was probably due to cases whereby interaction ended up with conflict or to family incident that affected their behaviours, which in turn, affected their interaction with peers. However, bullying acts appeared to be a prevailing situation among adolescents that negatively impacted on interaction between participants in the current study and their peers.

6.7 Theme 3: Understanding of cultural differences

Cultural differences could refer to knowledge of cultures, which included three subthemes: knowledge of culture, motivational culture and behavioural culture. Although findings in Section 6.7 show that interaction between my participants and their peers was limited, findings also indicate that all the ten participants believed that their different backgrounds and cultural diversity were a factor that positively contributed to high quality of interaction with peers in the classroom or at school. All the ten participants stated that their African cultures enabled them to interact with every learner irrespective of their cultural different backgrounds.

6.7.1 Knowledge of culture

The scrutiny of participants' interviews has revealed that all the ten participants (P₁, P₂, P₃, P₄, P₅, P₆, P₇, P₈, P₉, and P₁₀) knew their cultures which allowed them to interact with peers from different cultures. These participants knew the value of others' cultures, which cultures they respected at school. The following extracts from participants support this claim:

“There is other things you know, I am a Congolese, individually we have our own thoughts and thinking, some of these can be associated or be in conflict, I knew my culture, it require me to be nice with people, respectful, not be a problem with other....just do what it tells me and I feel good, it allows me..., because some cultures have similarities, all people have something in common around the world, I can have friend (coulored or south Africa)there is no problem..., my culture tells me if you help others, they should help you by others also.... I respect their culture, but I can't follow them..., seriously, I learn from the school, from brothers when they are speaking, it is very important” (Participant 3).

“I am form Baluba culture, you must be a cool person with everyone, have a nice dressing respectful you must have good behaviours in the community” (Participant 4).

“Ma culture me recommande d 'être cool, simple, gentil avec les autres, d'avoir l'amour envers les autres, il faut parler avec toute le monde, si l'autre a un problème il faut compatir” “Il faut parler avec les autres, il faut partager les idées avec les autres, il faut saluer les gens que tu ne connais pas”

“I knew ma culture is Luba, it just recommend me to do what is good for the community, my mom taught me: il faut aider les autres, aza ndeko nayo, yakolo moko kosaleyemabe tee, some cultures have similarities, I don't understand why other behaviour like that, what you need is to help, other's culture, but I can't follow them (their cultures)”(Participant 8).

“The Lunda culture tell me to be nice with people, respect your elders, you must greet people, you mustn't have a problem with people at school and in the community..., they have their culture, I can't change mine, I can't follow them I am black African person , it is different to my culture”(Participant 6).

“ I think about my culture, I have that need to give sense to my culture and it represent in one way, not in other way, I believe to do things differently from others” (Participant 2).

The above-mentioned extracts imply that participants in this study were aware of their own cultures and of what these cultures required them to do and how to behave once in contact with people whose cultures are different from theirs. Findings from these extracts show that

participants were willing to preserve their own cultures such as decent dressing, respect for their peers' cultures and not to copy anything from others' cultures.

6.7.2 Motivational culture

The data from participants' interviews revealed that seven participants showed that they (P₁, P₂, P₄, P₅, P₆, P₈ and P₉) were motivated and enjoyed interacting with other school mates from different cultures. They said they were confident when interacting with peers from unfamiliar cultures and that they enjoyed living in an unfamiliar culture with other learners (peers). This motivated them to make close friends from different cultures and/or ethnic groups at school. For example, Participant 4 said:

“I don't see there is really a big difference between us....We are all people from Africa, regardless your origin, your colour, gender, it does not matter, I think there is no reason for us (Congolese and south African) to live separately, we have a lot similarities,... we want to achieve the same needs and aspirations as learners at schools, to be warm among others, to be safe, build a friendships”.

“I think in this way there are no difference of cultures, we have the same values, it will make us to be a good human being, you know,... other people want to be westernized, but we are African, we need to behaviour in a good manners and respect other person...” (Participant 4).

Participant 3 believes in oneness as African learners sharing the same needs and aspirations, which can make all learners at school transcend their cultural backgrounds. By the same token, Participant 7 suggested the following:

“I don't see where we should undermine their cultures... or we throw away our own culture, I think we have to mix cultures, some that are the same... look around the world, we are learning every day, we need to listen what other saying, and be careful, I want to study in the moderate” (Participant 7).

Rather than devaluing one's own culture or totally rejecting peers' culture, francophone adolescent learners should tolerate one' another's culture and copy some cultural elements from peers' cultures.

6.7.3 Behavioural culture

All ten participants (P₁, P₂, P₃, P₄, P₅, P₆, P₇, P₈, P₉ and P₁₀), indicated that they changed their ways of speaking when interacting with peers from other cultures. They respectively confessed

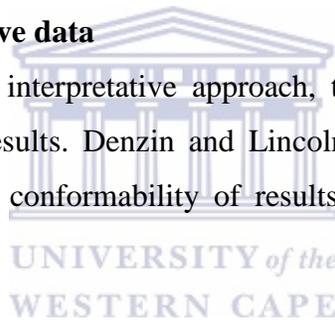
to change their tone and/or pace of speaking, use gestures, to pause differently, and to use facial expressions in order to suit their peers' cultures. Participants' will to suit others' cultures was an indicator that cultural differences influenced their interaction with their peers. This complies with some scholars' views of multiculturalism and modernization (Lerner, Lerner, & Lerner, 2006) and it emphasized the relevance of cultural diversity for effective leadership in a global context.

6.8 Reliability validity of qualitative data

Rigorous qualitative data analysis is important in research studies. In the current study, data analysis was rigorously done. A checklist was used in order to assess the reliability and validity of the findings.

6.8.1 Trustworthiness of qualitative data

As this study was framed by an interpretative approach, the researcher conceptualized it to produce trustworthy qualitative results. Denzin and Lincoln (1994) recommended credibility, transferability, dependability, and conformability of results as the criteria that help to reach trustworthiness.



6.8.2 Credibility of the findings

According to Roana (2009:247), internal validity deals with the extent to which findings make sense and are credible to people under the study. In the present study, rich insights were given and rich information generated from participants' qualitative data. Validity was also considered through examination of the various declarations made by the participants in relation to the objectives of this study.

6.8.3 Transferability of the findings

Based on the philosophical assumption of the qualitative research, the findings of this study can be transferred to other settings using the same theoretical framework and the analysis procedures with various setting of participants. The transferability can be used with the same quality of peer interaction in high schools in the multiculturalism context in general.

6.8.4 Dependability of the findings

In this study, findings from data measured dependability. The methods and instruments used for data collection and analysis attempted to determine the positive and negative factors influencing peer interaction among adolescents in the high schools. These appeared to be accurate, consistent and dependable, and could simply be evaluated and re-evaluated, thus providing a higher level of dependability of the results.

6.8.5 Conformability of the findings

The results conformed to the entire data collection procedure. The description and exploration could be inferred from data whether another researcher followed same procedure to investigate the same phenomenon, in the same background site.

6.9 Conclusion of the chapter

The current chapter has analysed and presented the qualitative results of the study. The biographical information reveals that 10 participants participated to the study including 5 females and 5 males from DRC. It further shows that these participants were registered from three distinct schools in the northern district in the Western Cape including schools A, B and C. Face-to-face semi-structured interviews were used to collect qualitative data with the thematic analysis results revealing three possible themes including positive factors, negative factors, and understanding of cultural differences. However, cooperative learning, sharing ideas and answers, quality of classroom climate, feeling a sense of belonging, peer support, and autonomy were categorized as positive factors, while peer rejection and peer bullying were considered as negative factors. Finally, knowledge of culture, motivational culture, and behavioural cultural were grouped in understanding of cultural differences.

CHAPTER 7

DISCUSSIONS, RECOMMENDATIONS, LIMITATIONS, AND REFLECTIONS TO THE STUDY

7 Introduction

In the previous chapter, the researcher presented the analysis of the data collected from qualitative results including biographical information, face-to-face interviews analysis from participants. The thematic analysis was used to analyse and interpret the qualitative results. The trustworthiness was discussed in order to determine the transparency, credibility, and transferability of qualitative results. This final chapter presents the discussions of the results in order to connect it with the previous studies. It responds to the objectives of the present study and summarises the main findings in terms of the relationship between psychosocial factors and peer interactions among francophone adolescent learners in the selected high schools. In addition, each contribution demonstrates how psychological factors, cultural difference and social support from parents, teachers, and peers can influence peer interaction through demographic characteristics (gender, age, and grade level) among francophone adolescent learners at high schools. This chapter culminates with some recommendations in order to explain some strategies for creating solutions to improve peer interactions among francophone adolescent learners in high schools. Finally, the chapter presents the limitations and reflections of the study.

7.1 Testing hypotheses

The following variables were tested: gender, age, and grade level for the demographic characteristics. Emotional regulation, aggressiveness, empathy, and sympathy were tested for psychological factors. Affective, informational, and instrumental for social support from teachers, parents, and peers were tested. Finally, knowledge of culture, motivational culture and behavioural culture were tested for cultural differences. It was hypothesized that:

- (1) There is no statistically significant difference between peer interaction and demographic characteristics (gender, age, and grade levels) among francophone adolescent learners in the selected high schools in the Western Cape;
- (2) There is no statistically significant difference between emotional regulation and demographic characteristics (gender, age, and grade levels) among francophone adolescent learners in the selected high schools in the Western Cape;
- (3) There is no statistically significant difference between aggressiveness and demographic characteristics (gender, age, and grade levels) among francophone adolescent learners in the selected high schools in the Western Cape;
- (4) There is no statistically significant difference between empathy and demographic characteristics (gender, age, and grade levels) among francophone adolescent learners in the selected high schools in the Western Cape;
- (5) There is no statistically significant difference between sympathy and demographic characteristics (gender, age, and grade levels) among francophone adolescent learners in the selected high schools in the Western Cape;
- (6) There is no statistically significant difference between knowledge of culture and demographic characteristics (gender, age, and grade levels) among francophone adolescent learners in the high schools in the Western Cape;
- (7) There is no statistically significant difference between motivational culture and demographic characteristics (gender, age, and grade levels) among francophone adolescent learners in the selected high schools in the Western Cape;
- (8) There is no statistically significant difference between behavioural culture and demographic characteristics (gender, age, and grade levels) among francophone adolescent learners in the selected schools in the Western Cape. Chi-square (χ^2) was used to test the statistically significant differences between independent and dependent variables for both null and alternative hypotheses in the current study.

H1: There is no statistically-significant difference between peer interaction and demographic characteristics (gender, age, and grade level) among francophone adolescent learners in the selected high schools in the Western Cape.

The results presented in Chapter 5 (Section 5.3.1) have revealed that all the demographic characteristics including gender, age and grade levels showed no significant difference in relation to peer interactions ($p > .05$).

These results have shown that gender differences do not affect peer interaction, and these results support the null hypothesis (H_0), which states that there is no statistically significant difference between peer interaction and gender among francophone adolescent learners in the selected high schools in the Western Cape. Thus, the alternative hypothesis (H_1) was rejected. In the light of these results, there is inconsistency with results found by previous studies that revealed male adolescents differently interacted with their peers than females (Fabes, Martin & Hanish, 2003; Underwood, 2004; Rose & Rudolph, 2006, Campell, Holderness & Riggs, 2015; Mjaavatn, Frostad & Pijl, 2016). Furthermore, most of the circumstances, adolescents interactions with their peers are influenced by gender differences, degree level, frequency and length of individual in group. Literature reports that adolescents generally start interacting with their peers based on their similarities versus differences. These inconsistencies could be due to the cultural context of participants under research, peer interactions do not explain the gender differences.

Furthermore, these results reveal that age differences do not influence peer interaction, and support the null hypothesis (H_0), which implies that there is no statistically significant difference between peer interaction and age among francophone adolescent learners in the selected high schools in the Western Cape. Consequently, the alternative hypothesis (H_1) was rejected. This is inconsistent with other previous studied that reported results different to the current findings that age difference influences peer interaction among adolescents (Rose, & Rudolph, 2006; Rose, & Smith, 2009). The researcher suggests that the methodological approach could be a reason for these contradictory findings for these participants.

As to the grade level, the results in the same table indicate that grade level differences do not impact on peer interaction, and this supports the null hypothesis (H_0) that states there is no statistically significant difference between peer interaction and grade level among francophone adolescent learners in the selected high schools in the Western Cape. Therefore, the alternative hypothesis (H_1) was rejected. Again, these results are not consistent with previous studies, that reported that school grade level affects peer interactions among adolescents (Lee, Olszewski-Kubilius, & Thomson, 2012; Furrer, Skinner, & Pitzer, 2014). These studies have suggested that

the higher the grade level, the lower the peer interactions. The researcher believes that this inconsistency can be due to the difference in the sample size and instruments used by these scholars. This study considers that the positive facet of peer interaction should be significantly encouraged among adolescent learners in schools because it contributes to the learning of academic skills, listening to others' opinions, providing constructive feedback, welcoming others to school, a sense of belonging and warmth to the classmates, challenging tasks including hard work, mutual respect, and providing help and advice from their peers at schools.

H2: There is no statistically-significant difference between emotional regulation and demographic characteristics (gender, age, and grade level) among francophone adolescent learners in the selected high schools in the Western Cape.

The study has demonstrated that there was a statistically significant difference for emotional regulation in terms of gender, age, and grade level ($p < .05$).

The results have shown a statistically significant difference for the relationship between emotional regulation and gender. The data displayed in Table 5.4, Chapter 5 (Sections 5.3.1 and 5.3.2) have revealed that about over 94.2 % of male participants had stable emotional regulation. These results suggest that gender differences were affected in emotional regulation, considering that the boys were more emotionally stable than girls. These results do not support the null hypothesis (H_0) that states there is no statistically significant difference between emotional regulation and gender among francophone adolescent learners in the selected high schools in the Western Cape. Therefore, the alternative hypothesis (H_1) was accepted. This is consistent with previous empirical studies that have shown that gender differences impact on emotional regulation among adolescents (Gross, Carstensen, Pasupathi, Tsai, Göttestam Skorpen, & Hsu, 1997; Garnefski, Teerds, Kraaij, Legerstee, & van den Kommer, 2004; van Middendorp, Geenen, Sorbi, Hox, Vingerhoets, van Doornen, & Bijlsma, 2005; McRae, Ochsner, Mauss, Gabrieli, & Gross, 2008; Gullone, Hughes, King, & Tonge, 2010). Furthermore, the results have indicated a statistically significant difference for the relationship between emotional regulation and age. The data presented in the same table (Section 5.3.1) have indicated that approximately over 93.1 % of participants from 17 to 19 years old had stable emotional regulation. This result suggests that age differences influences emotional regulation, considering that the older

participants had reported more stable emotional regulation than those of the younger age. This result does not support the null hypothesis (H_0) that states that there is no statistically significant difference between emotional regulation and age among francophone adolescent learners in the selected high schools in the Western Cape. Therefore, the alternative hypothesis (H_1) was accepted. However, most previous studies have revealed inconsistency of age difference on emotional regulation during interaction situations, by indicating that emotional regulation could not reflect uniquely for the use of a age specific (Gullone, Hughes, King & Tonge, 2010; Zimmermann & Iwanski, 2014), but at certain ages some specific patterns of emotional regulation such as stable or unstable (anger, happiness) are more caused by age influence (Gullone, Hughes, King & Tonge, 2010; Zimmermann & Iwanski, 2014), individual degree of emotionality (Eisenberg & Spinrad, 2004), and circumstances in which individuals are situated (von Scheve, 2012). This inconsistency could be because of data collected in cross-sectional studies and the behaviour might differently operate in the longitudinal design. Similarly, Blanchard-Fields, Stein and Watson (2004) emphasized that this influence of age differences on emotional regulation allowed the solution of certain social problems, as the younger children solved their problems differently from the adults.

Finally, the results have revealed a statistically significant difference for the correlation between emotional regulation and grade levels. The data presented in the same chapter (Section 5.3.1) have shown that approximately over 92 % of participants from 10th grade level reported having stable emotional regulation. These results show that grade level differences influence emotional regulation, considering that the higher grade level had reported more stable emotional regulation than lower grade level. These results do not support the null hypothesis (H_0), which states that there is no statistically significant difference between emotional regulation and grade levels among francophone adolescent learners in the selected high schools in the Western Cape. Therefore, the alternative hypothesis (H_1) was accepted. Previous findings revealed consistency of grade level differences on emotional regulation (Öngen, 2010).

H3: There is no statistically-significant difference between aggressiveness and demographic characteristics (gender, age, and grade level) among francophone adolescent learners in the selected high schools in the Western Cape.

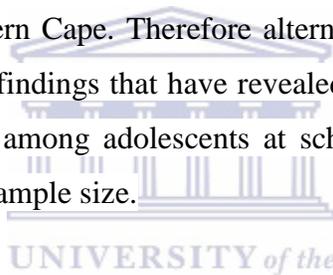
The study results have indicated that there was partially statistically significant difference for aggressiveness to gender and age ($p < .05$), but not for grade level ($p > .05$).

First, the results have reported a statistically significant difference for the correlation between aggressiveness and gender. The data displayed in the same chapter (Sections 5.3.1 and 5.3.2) have indicated that about over 75.5 % of female participants reflected having no aggressive behaviours towards their peers than males. These results do not support the null hypothesis (H_0) that states that there is no statistically significant difference between aggressiveness and gender among francophone adolescent learners in the selected high school in the Western Cape. Therefore the alternative hypothesis (H_1) was accepted. This suggests that gender differences impacted on aggressiveness, suggesting that females did not react more aggressively than males. These results are consistent with previous literature related to the applicability of gender differences as predictor on aggressiveness (Estevez, Povedano, Jimenez, & Musitu, 2012; Fares, Ramirez, Cabrera, Lozano, & Salas, 2011; Oberst, Charles, & Chamarro, 2005; Meichenbaum, 2006). Furthermore, other studies have attempted to specify the multifaceted nature of the aggressiveness, and they found that both indirect and direct aggressive behaviours could be affected by gender differences, which reflected male aggressors would employ more direct, physical and verbal aggression, while female aggressors used indirect, verbal aggression (Archer, 2000; Anderson, & Bushman, 2002; Toldos, 2005; Lee, Baillargeon, Vermunt, Wu & Tremblay, 2007; Romero, 2011). Zhou (2012) contradicted these results and reported insignificant differences between aggression and gender. This difference of results could be due to the cultural reason. As previous researchers revealed, it is not always generally true with regard to studies in the field of anthropology that suggested having a limit because cultural background may influence gender differences in aggression (Fry, 1992; Cook, 1992; Burbank, 1987; Björkqvist, 1994).

Secondly, the results have reported a statistically significant difference for the relationship between aggressiveness and age. The data presented in the same Chapter (Sections 5.3.1, and 5.3.2) have revealed that approximately over 68.9 % of the participants within the range of 17-19 years old reported having no aggressive inclinations towards their peers than 14-16 years old. This study confirms that age differences influence aggression, therefore, it could be concluded that elder participants were not more aggressive than younger participants. These results do not support the null hypothesis (H_0), which states that there is no statistically significant difference

between aggressiveness and age among francophone adolescent learners in the selected high schools in the Western Cape. Therefore alternative hypothesis (H_1) was accepted. This is in accordance with previous studies that have demonstrated that children justified more easily aggressive behaviours than older adolescents in a wide range of circumstance (Deb & Modak, 2009; Fares, Ramirez, Cabrera, Lozano & Salas, 2011; Sharma & Marimuthu, 2014). In light of this conclusion, Shaikh, Viveki and Halappanavar (2014) believe that the great consideration of aggression could be influenced by many reasons such as media, existing life style family set up, school atmosphere, nature of school discipline and classroom code of conduct.

Finally, the current study has revealed a statistically insignificant difference for aggressiveness to grade level. In light of this, grade level differences were not justified on aggressiveness. These results support the null hypothesis (H_0), which states that there is no statistically significant difference between aggressiveness and grade level among francophone adolescent learners in the selected high schools in the Western Cape. Therefore alternative hypothesis (H_1) was rejected. This is inconsistent with previous findings that have revealed the school grade level differences have influence on aggressiveness among adolescents at schools (Seals & Young, 2003). The inconsistency could be due to the sample size.



H4: There is no statistically-significant difference between empathy and demographic characteristics (gender, age, and grade level) among francophone adolescent learners in the selected high schools in the Western Cape.

The study has shown that there was partially statistically insignificant difference for empathy to gender and grade level ($p > .05$), but not for age ($p < .05$).

The results have shown a statistically significant difference for the relationship between empathy and age. The data presented in the same chapter (Section 5.3.1) have indicated that approximately over 96.3 % of participants ranged between age 14-16 years old showed having empathetic behaviours toward their peers. This study confirms that age differences reflect an influence on empathy, suggesting that the younger age expressed more empathetic behaviours than the older age. This suggests that the higher the empathy, the lower the age. These results do not support the null hypothesis (H_0), which states that there is no statistically significant difference between empathy and age among francophone adolescent learners in the selected high

schools in the Western Cape. Therefore, the alternative hypothesis (H_1) was accepted. This is consistent with previous studies that have demonstrated an impact of age differences on empathy (Grühn, Rebucal, Diehl, Lumley & Labouvie-Vief, 2008). In light of these findings, literature has highlighted that empathetic individuals reported more satisfaction with their lives than less empathetic individuals. It has further suggested that individuals with higher empathetic behaviours positively interacted with their peers. This finding appears to suggest that empathetic individuals value the importance in the development of social interaction.

Furthermore, the results have indicated a statistically insignificant difference for the relationship between empathy and gender. In light of these results, gender differences did not impact on empathy. These results support the null hypothesis (H_0) which states that there is no statistically significant difference between empathy and gender among francophone adolescent learners in the selected high schools in the Western Cape. Therefore the alternative hypothesis (H_1) was rejected. This is inconsistent with previous studies that have shown a significant difference between gender and empathy (Guevara, Cabrera, Rocio, 2015; Michalska, Kinzler, & Decety, 2013; Rueckert, Branch, & Doan, 2011; Garaigordobil, Maganto, Perez, & Sansinenea, 2009; Retuerti, 2004). These studies revealed that in most circumstances relating to themselves, as well as to other friends, females valued themselves as great happiness and willingness to report empathy experiences than men. Furthermore, Rueckert and colleagues suggested that these gender differences of empathetic feeling could be due to their natural emotional sensitivity toward others. The inconsistency of results could be due to the methodological considerations and dependent on the cultural context as some previous scholars specified and others have not specified the types of empathy under a particular research. Similarly, this contrast of results could be due to tendencies that are changed female adolescents perceived more empathy than males.

Finally, the results have demonstrated a statistically insignificant difference for the correlation between empathy and grade level. In light of this result, grade level differences were not confirmed to have impact on empathy; therefore, the results support the null hypothesis that states that there is no statistically significant difference between empathy and gender among francophone adolescent learners in the selected high schools in the Western Cape. Therefore alternative hypothesis (H_1) was rejected.

H5: There is no statistically-significant difference between sympathy and demographic characteristics (gender, age, and grade level) among francophone adolescent learners in the selected high schools in the Western Cape.

The study has shown that there was partially statistically significant difference for sympathy to gender ($p < .05$), except to age and grade level ($p > .05$).

The results have demonstrated a statistically significant difference between sympathy and gender. The data presented in the same chapter (see Section 5.3.1) have shown that approximately over 94.2 % of female participants indicated having sympathetic feeling towards their peers. These results confirm that gender differences can impact on sympathy, and this shows that female adolescents tend to be more sympathetic than males. These results do not support the null hypothesis (H_0), which states that there is no statistically-significant difference between sympathy and gender among participants. Therefore, the alternative hypothesis (H_1) was accepted. This is consistent with previous studies that have revealed that sympathy traits are more other-directed for females than males, although they always differed from their goals and objectives under research conditions (Kienbaum, Volland, & Ulich, 2001; Goldstein, & Winner, 2012).

The results have shown a statistically insignificant difference for the relationship between sympathy and age. In light of these results, age differences did not impact on sympathy. These results support the null hypothesis (H_0) that states that there is no statistically significant difference between sympathy and age among participants. Therefore the alternative hypothesis (H_1) was rejected. This is contrary to previous findings that reported differences between sympathy and age among adolescents (Vaish, Carpenter, & Tomasello, 2009; Hepach, Vaish, & Tomasello, 2013). Literature suggests that in the harm and neutral circumstances, younger children can sympathize with a victim even in the absence of overt emotional indications by diverse forms of affectivity. It further concludes that older adolescents were greater influence for sympathy situation than younger ones. This study believes that the inconsistency of findings is based on the methodology used, which include sampling and sample size.

Finally, the results have indicated a statistically insignificant difference between sympathy and grade level. In the light of this, it can be concluded that the grade level did not predict the sympathetic disposition of participants. This finding is consistent with factor for sympathy.

However, these results support the null hypothesis (H_0) that reported no statistically significant difference between sympathy and grade level among francophone adolescent learners in the selected high schools in the Western Cape. Therefore the alternative hypothesis (H_1) was rejected.

H6: There is no statistically-significant difference between knowledge of culture and demographic characteristics (gender, age, and grade level) among francophone adolescent learners in the selected high schools in the Western Cape.

The study has shown a statistically insignificant difference for knowledge of culture to gender, age and grade level ($p > .05$).

These results suggest that gender differences do not impact on the knowledge of culture, and this supports the null hypothesis (H_0), which states that there is no statistically-significant difference between knowledge of culture and gender among participants. Therefore, the alternative hypothesis (H_1) was accepted. This is inconsistent with previous literature (Costa Jr, Terracciano, & McCrae, 2001; Bray, Brown, & Green, 2004) that supports the current findings. Literature has suggested that these differences are generalised and reliable during adolescence, but it tended to illustrate greater differences during adulthood. However, the social role is progressively attenuated when the gender role differences are based on the comparisons of self with others of the same gender (Costa Jr, *et al.*, 2001). This inconsistency could be due to the cultural effects. The prior studies considered the participants in traditional perspective and this study assumed that the participants in modern approaches.

The results have revealed revealed that age differences do not affect knowledge of culture, and support the null hypothesis (H_0) that declares there is no statistically-significant difference between knowledge of culture and age among participants. Therefore, the alternative hypothesis (H_1) was rejected.

The results have demonstrated that grade level differences do not influence on knowledge of culture, and support the null hypothesis (H_0) that states there is no statistically-significant difference between knowledge of culture and grade level participants. Therefore, the alternative hypothesis (H_1) was rejected.

H7: There is no statistically-significant difference between motivational culture and demographic characteristics (gender, age, and grade level) among francophone adolescent learners in the selected high schools in the Western Cape.

The study results have revealed that there was statistically insignificant difference for motivational culture to gender, age and grade level ($p > .05$).

These results have shown that gender differences do not significantly impact on motivational culture, and this confirms the null hypothesis (H_0) that states that there is no statistically-significant difference between motivational culture and gender among participants. Therefore, the alternative hypothesis (H_1) was rejected.

The results have further demonstrated that age differences do not affect the motivational culture, and this confirms the null hypothesis (H_0), which states that there is no statistically-significant difference between motivational culture and age among participants. Therefore, the alternative hypothesis (H_1) was rejected.

The results have indicated that grade level differences do not influence motivational culture, and support the alternative hypothesis (H_0) that states there is no statistically-significant difference between motivational culture and grade level among participants. Therefore, the alternative hypothesis (H_1) was rejected.

H8: There is no statistically-significant difference between behavioural culture and demographic characteristics (gender, age, and grade level) among francophone adolescent learners in the selected high schools in the Western Cape.

The study has demonstrated that there was a statistically insignificant difference for behavioural culture to gender, age and grade level ($p > .05$).

The results have shown that gender differences do not predict the behavioural culture, and this confirms the null hypothesis (H_0) that states that there is no statistically significant difference between behavioural culture and gender among participants. Thus, the alternative hypothesis (H_1) was rejected.

The results have further indicated that age differences do not influence the behavioural culture, and this supports the null hypothesis (H_0) that states that there is no statistically-significant

difference between behavioural culture and age among participants. Therefore, the alternative hypothesis (H_1) was rejected.

The results have also shown that grade level differences impact the behavioural culture, and this confirms the null hypothesis (H_0) that states there is no statistically-significant difference between behavioural culture and grade level among participants. Therefore, the alternative hypothesis (H_1) was rejected.

7.2 Aim and objectives of the current study

This study intended to examine the relationship between demographic details (gender, age, and grade level), psychosocial factors including psychological factors (emotional regulation, aggressiveness, sympathy, and empathy), social support from teachers, parents, and peers (affective support, information support, and instrument support), and cultural differences (knowledge of culture, motivational culture, and behavioural culture), and peer interactions among francophone adolescent learners in high schools in the Western Cape. Thereafter, it had seven distinctive objectives:

The first objective was to determine the demographic characteristics of the sample size for francophone adolescent learners in the selected high schools in the Western Cape;

The second objective was to determine the bivariate relationships between psychosocial factors (psychological factors, social supports, and cultural differences), and peer interactions by gender among francophone adolescent learners in high schools in the Western Cape;

The third objective was to determine the bivariate relationships psychosocial factors (psychological factors, social supports, and cultural differences), and peer interactions by age among francophone adolescent learners in the selected high schools in the Western Cape;

The fourth objective was to determine the bivariate relationships psychosocial factors (psychological factors, social supports, and cultural differences), and peer interactions by grade level among francophone adolescent learners in the selected high schools in the Western Cape;

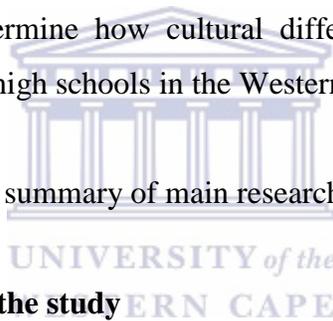
The fifth objective was to develop a Structural Equation Modeling (SEM) that can explain the interrelationship among psychosocial factors including psychological (emotional regulation, aggressiveness, sympathy, and empathy) and social support (social supports from teachers, parents, peers) and cultural differences (behavioural culture, knowledge of culture, and motivational cultural);

The sixth objective was determine the positive factors that influence peer interaction among francophone adolescent learners in selected high schools in the Western Cape;

The seventh objective was to determine the negative factors that influence peer interaction among francophone adolescent learners in the selected high schools in Western Cape;

The eighth objective was to determine how cultural differences can influence francophone adolescent learners in the selected high schools in the Western Cape.

Then the current study presents the summary of main research findings.



7.3 Main empirical findings of the study

The main empirical findings were synthesized within quantitative results chapter. This current section will summarise the empirical findings in order to answer three research questions.

What are the demographic characteristics of the sample of francophone adolescent learners in the selected high schools in the Western Cape?

This study has shown that the demographic characteristics of the sample comprised of 83 participants (N = 83). With regard to gender, the data presented in Chapter 5 (see Section 5.1) have revealed that approximately 62.7 % of participants were females (n = 52) and 37.3 % were males (n = 31). Similarly, the descriptive results have shown an average of 1.627 as mean gender of the sample (range = 1.0 to 2.0, SD = .4867). The results suggest that there were more female participants (62.7 %) than male participants in the current study.

As regards to the variable age, the data displayed in the same chapter (see Section 5.1) have shown that about 65.1 % of participants were aged between 14 and 16 years ($n = 54$) while over 34.9 % of participants ($n = 29$) were aged between 17 and 19 years old. Similarly, descriptive analyses have indicated about 15.964 years as the mean age of the participants (range = 14.0 to 19.0, $SD = .6188$). In the light of these statistics, it can be concluded that there were more participants aged between 14 and 16 years old (65.1 %) than those aged between 17 and 19 years.

With regard to the variable high school, the data displayed in the same chapter (see Section 5.1) have demonstrated that the highest number of participants, over 47.0 % was from school A ($n = 39$); followed by about 45.8 % from school C ($n = 38$), while only approximately 7.2 % of participants were from school B ($n = 6$). Furthermore, descriptive statistics have displayed an average of 1.988 school as the mean of the sample (range = 1 to 3.0, $SD = .9690$). In the light of these results, it can be concluded that there were more participants from the school A (47.0 %) than other two schools.

In respect to the variable grade level, the data presented in the same chapter (see Section 5.1) have indicated that the highest frequency of participants, over 42.2 % were in grade 9 ($n = 33$), followed by over 30.1 % from grade 8 ($n = 27$), then about 15.7 % were from grade 11 ($n = 13$), over 7.2 % were from grade 12 ($n = 6$), and lastly about 4.8 % were from grade 10 ($n = 4$). In addition, the descriptive analyses have shown an average of 9.277 grade level as mean of the sample (range = 8.0 to 12.0, $SD = 1.2524$). In light of these results, it can be concluded there were more participants from 9th grade level (42.2 %) than other from the four grades.

As to the variable nationality, the data displayed in the same chapter (see Section 5.1) have showed that approximately 98.8 % of participants were Congolese DRC of nationality ($n = 82$), while over 1.2 % were Congolese from Brazzaville ($n = 1$). Similarly, the descriptive results have indicated an average of 1.012 for nationality as the mean of the sample (range = 1.0 to 2.0, $SD = .10989$). In the light of the results, it could be concluded that there were more participants from DR Congo (98.8 %) than others with Congolese nationality from Brazzaville.

What is the relationship between psychosocial factors (psychological factors: emotion regulation, aggressiveness, sympathy, empathy; social support from teachers, parents,

peers; and cultural differences), and peer interaction by age among francophone adolescent learners in the selected high schools in the Western Cape?

As presented in Section 5.3.2.1, the results have revealed an insignificant difference for age between psychosocial factors (emotional regulation, aggressiveness, empathy, and sympathy) and peer interaction ($p > .05$). However, a very weak positive correlation of scores was found between emotional regulation, sympathy and peer interaction, while a negative weak association of scores appears between aggressiveness, empathy, and peer interaction for 14-16 years old. The emotional regulation, aggressiveness and sympathy reported a weak positive correlation with peer interaction, while the empathy and peer interaction scores showed a negative very weak correlation for 17-19 years old.

The results have further indicated a significant difference of age between affective social support from teachers and peer interaction ($p < .05$). As regards to 14-16 years old, a weak positive relationship was shown between peer interaction and social supports from teachers including affective, instrumental, and informational. In respect to 17 to 19 years old, a moderate correlation appears between affective, instrument social support and peer interaction, whereas a weak association was found for informational social support.

In light of these results, it can be concluded that the higher affective social support from teachers, the lower age. Older participants who received little affective social support from their teachers reported more peer interaction than younger children receiving higher level of social support from teachers.

The results have also showed only a significant difference relationship between instrumental social support from parents and peer interaction by age variable ($p < .05$). As regards to 14-16 years old, a very weak positive correlation reports between affective and instrumental social support from parents and peer interaction, whereas a very weak negative relationship shows with information. With regard to the range of 17-19 years old, moderate correlations were reported between all three types of social support from parents and peer interaction. In light of these results, it can be concluded that the older participants were more supported with instrumental social support from their parents than the younger ones.

The results have further displayed significant differences between both affective and informational social supports from peers and peer interaction for age variable ($p < .05$). In respect to 14-16 years old, a weak correlation was found between both affective and instrumental social support scores and peer interaction, while a moderate association between affective support and peer interaction scores was subsequently explored. As regard to 17 to 19 years old, a moderate relationship was found between affective social support from peers scores and peer interaction, whereas a weak correlation appears between informational and instrumental social support and peer interaction. In light of these results, it can be concluded that the older participants were more affectively socially supported by their peers than the younger ones with related to peer interaction. In addition, the younger participants reported more informational support by their peers than the older ones.

The results have further revealed a significant difference between cultural differences (knowledge of culture, motivational culture, and behavioural culture) and peer interaction for age variable ($p < .05$). With regard to 14-16 years old, a positive moderate correlation was reported between knowledge of culture and motivational culture and peer interaction, while a positive weak association appears for the range of age. As regard to 17-19 years old, a moderate correlation was found between motivational culture and behavioural culture and peer interaction as well as a positive weak association with knowledge of culture.

In the light of these results, it can be concluded that the younger participants were acknowledged to know more about their cultures based on interaction with peers than the older ones. Similarly, the younger participants were more motivated with their cultures than the older ones. Finally, this suggested that older participants were more behaved based on their culture of peer interaction than the younger ones.

What is the relationship between psychosocial factors (psychological factors: emotion regulation, aggressiveness, sympathy, empathy; social support from teachers, parents, peers; and cultural differences), and peer interaction by gender among francophone adolescent learners in the selected high schools in the Western Cape?

As presented in the chapter 5 (Section 5.3.2.2), the results have revealed an insignificant difference of gender and relationship between psychological factors (emotion regulation,

aggressiveness, empathy, and sympathy) and peer interaction ($p > .05$). As to males, a positive weak correlation was found between emotion regulation and sympathy and peer interaction, while negative weak correlation was found between aggressiveness and empathy and peer interaction. As regards to females, a positive weak relationship was found between emotional regulation, empathy, sympathy and peer interaction, and a very weak negative correlation was found between aggressiveness and peer interaction. In the light of these results, it can be suggested that gender may not influence peer interaction and psychosocial factors including emotional regulation, aggressiveness, empathy and sympathy.

The results have further revealed a partial significant difference of gender and a correlation between three board social supports from teachers and peer interaction by gender ($p < .05$). In respect to males, positive weak relationships were found between affective, informational, instrument social support from teachers and peer interaction. With regard to female, a moderate positive significant correlation was found between peer interaction and instrumental social support from teachers, while positive weak relationships report between peer interaction, affective, and informational social support from teachers.

In light of these results, it can be suggested that females were more instrumentally supported from their teachers than males with regard to peer interactions.

The results have also showed significant gender differences and correlation between social supports from parents and peer interaction ($p < .05$). As regards to male, a very week positive association was found between affective social support and peer interaction, contrary, a negative weak correlation was reported between information, and instrumental social support and peer interaction. As to female, all three broad types of social supports were significantly related with peer interaction ($p < .05$), whereas, a moderate correlation appears between affective and instrumental and a weak reports for informational.

In light of these results, it can be suggested that the social support from parents may have an influence within peer interaction for the variable female. This helps to conclude that females were more affectively, informationally, and instrumentally supported by their parents than males with regard to peer interactions.

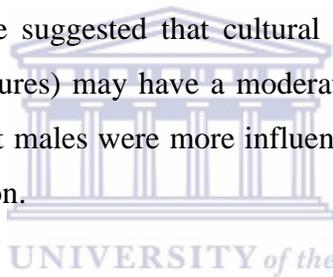
The results have demonstrated significant gender differences and positive relationship between all three main types of social supports from peers and peer interactions ($p < .05$). With regards to

males, a weak association between affective and informational support and, a very weak relationship between instrumental and peer interaction were found. In respect to females, a moderate relationship appears between affective and informational, and a weak correlation explores between instrumental support and peer interaction.

In light of these results, it can be concluded that females were more affectively, informationally supported by their peers than males with regard to peer interaction.

The results have indicated that cultural differences (knowledge of culture, motivation culture, and behavioural culture) were positively significantly associated with peer interaction for gender ($p < .05$). As to males, a moderate association reports between both knowledge of culture and motivational culture and peer interaction, and a weak association appears between behavioural cultures and peer interaction. With regards to females, a moderate relationship shows between knowledge of culture motivational, behavioural cultures, and peer interaction.

In light of these results, it can be suggested that cultural differences (knowledge of culture, motivational, and behavioural cultures) may have a moderate influence on peer interaction for gender. This helps to conclude that males were more influenced by the cultural differences than females regarding to peer interaction.



What is the relationship between psychosocial factors (psychological factors: emotion regulation, aggressiveness, sympathy, empathy; social support from teachers, parents, peers; and cultural differences), and peer interaction by grade level among francophone adolescent learners in the selected high schools in the Western Cape?

The results presented in the same chapter (Section 5.3.2.3) have showed insignificant grade level differences and relationship between emotional regulation, empathy, and sympathy and peer interaction, while aggressiveness reports significant difference ($p < .05$). As regards to 8th grade level, a positive moderate correlation appears between aggressiveness and peer interaction, while negative correlation is displayed between emotional regulation, empathy and sympathy and peer interaction.

In respect to 9th grade level, a weak relationship is noted between emotional regulation, empathy and sympathy and peer interaction, as well as a very weak negative correlation between aggressiveness and peer interaction.

As to 10th grade level, a positive strong correlation is displayed between emotional regulation and peer interaction, and a weak relationship was found between empathy, sympathy and peer interaction within peer interaction. Furthermore, a negative moderate association appears between aggressiveness and peer interaction.

With regard to 11th grade level, a positive moderate correlation is displayed between aggressiveness and sympathy and peer interaction and a weak relationship is found in emotional regulation. Furthermore, a negative correlation between empathy and peer interaction was found at the same grade level.

As to 12th grade level, a negative weak correlation is demonstrated between emotional regulation, empathy, and sympathy within peer interaction, while a positive strong correlation appears between aggressiveness and peer interaction at the same grade level.

In light of these results, it can be suggested that grade level differences may not have an influence within psychological factors (emotional regulation, empathy and sympathy) and peer interaction, but it may have a greater influence between aggressiveness and peer interactions. This helps to conclude that the grade 8th level were more aggressive than others (9, 10, 11, and 12th).

Furthermore, the results have indicated a significant grade level differences and positive correlation within all three kinds of social supports from teachers and peer interaction ($p < .05$). As regards to 8th grade level, a negative very weak relationship was found between affective and instrumental social support and peer interaction, while positive very weak relationship was displayed between informational social supports. As to 9th grade level, a positive moderate correlation was found between informational, and instrumental social support from teachers and peer interaction, and a weak relationship with affective social support. While a moderate correlation was found between affective social support and peer interaction, and a weak relationship with informational social support, and a strong relationship with instrumental social support. With regards to 11th grade level, a positive strong association appeared between affective social support and peer interaction, a moderate correlation with instrumental, and a weak one with informational social support. Finally, in respect to 12th school grade level, a positive weak correlation was found between affective and instrumental social support and peer interaction, while a negative weak relationship was displayed between informational social support shows as well as.

In light of these results, it can be suggested that grade level differences may have a greater impact on affective, informational, and instrumental social support from teachers and peer interaction. This helps to conclude that the higher affective, information, instrumental social support from teachers, the lower the grade level.

The results have also showed only significant grade level differences and positive correlation between instrumental social supports from parents and peer interaction, but not for affective and informational one. As regards to 8th grade level, a positive weak correlation was reported between affective, informational, instrumental social support and peer interaction. As to 9th grade level, a positive weak correlation was revealed between affective and instrumental social support from parents with peer interaction, while a negative weak correlation was found with informational social support. With regards to 10th grade level, negative weak and moderate correlations were found between informational and instrumental social support, while a moderate positive correlation reports between affective social support and peer interaction. In respect to 11th grade level, a positive moderate correlation was found between affective, informational, social support from parents and peer interaction, as well as a strong relationship with instrumental social support. Finally, as to 12th grade level, a positive moderate correlation was demonstrated between affective, informational, instrumental social support from parents, and a strong correlation appears with informational social support from parents.

In light of these results, it can be suggested that grade level differences may have a strong influence on instrumental social support from parents regarding peer interaction. These results help to conclude that the higher instrumental social support from parents, the lower grade level.

In addition, the results have shown significant grade level differences and positive correlation between affective, informational and instrumental social supports from peers and peer interaction. With regards to 8th school grade level, a positive association was found between affective, informational, and instrumental social support from peers and peer interaction. As to 9th school grade level, a positive correlation was found within affective, informational, instrumental social support and peer interaction. In respect to 10th school grade level, a negative strong correlation was found between affective informational and instrumental social support from peers and peer interaction. As regards to 11th school grade level, a positive strong association was found between affective, informational, and instrumental social support and peer interaction. Finally, as to 12th school grade level, a positive correlation was reported between

affective, informational, and instrumental social support from peers and peer interaction. In light of these results, it can be suggested that grade level differences may have a strong influence on affective, informational, and instrumental social support from peers relating to peer interaction. This helps to conclude that the higher affective, informational, and instrumental social support from peers, the lower grade level.

The results have further revealed significant grade level differences and positive relationship between knowledge of culture, and motivational culture within peer interaction. As regards to 8th grade level, a positive association was found between both knowledge of culture and motivational culture within peer interaction, while a negative relationship was found within behavioural culture. With regard to 9th school grade level, positive moderate correlations were found between knowledge of culture, behavioural culture and peer interaction and weak relationship reports within motivational social support. As to 10th grade level, a positive correlation was found between knowledge of culture, motivational and behavioural culture and peer interaction. In respect to 11th grade level, positive strong correlation was found between both knowledge of culture and motivational culture within peer interaction, and a moderate correlation was found with behavioural social support. Finally, as to 12th school grade level, a negative strong correlation was found between both knowledge of culture and motivational culture within peer interaction, while a positive moderate correlation appears between behavioural cultures and peer interaction at the same grade level. In light of these results, it can be suggested that grade level differences may have a greater impact on knowledge of culture and motivational culture regarding to peer interactions. This helps to conclude that the higher knowledge of culture and motivational culture, the lower grade level.

What is the Structural Equation Modeling (SEM) that can explain the interrelationship among psychosocial factors including psychological (emotional regulation, aggressiveness, sympathy, and empathy) and social support (social supports from teachers, parents, peers) and cultural differences (behavioural culture, knowledge of culture, and motivational cultural)?

❖ **Model A for psychological factors**

The results presented in the Chapter 5 (Section 5.3.1.1) have indicated that the Model fit A for Psychological Factors (PF) included Emotional Regulation (ER), Aggressiveness (AG), Sympathy (SYM), and Empathy (EMP) was significantly confirmed the sample data fit. In light of these results, it can be concluded that the Model A was reasonably fitted to the sample data of covariance between exogenous variables, which indicated that most of these variables were not significant ($p > .05$); only empathy had a strong correlation with sympathy ($p < .05$).

❖ **Model B of social support from teachers output**

The results presented in the same chapter (Section 5.3.1.2) have demonstrated that the Model B of Social Support from Teachers (SST) comprised Affective Social Support from Teachers (AFST), Information Social Support from Teachers (INST), and Instrument Social Support from Teachers (ISST) was significantly defined to the sample data fit. Therefore, it can be concluded that the Model B was fitted to the sample data of covariance between exogenous variables and this indicates that all the variables of social support from teachers were significantly correlated, AFST, INST, and ISST ($p < .005$).

❖ **Model C of social support from parents output**

The results presented in the same chapter (Section 5.3.1.3) have showed that the Model C of Social Support from Parents (SSP) including Affective Social Support from Parents (AFSP), Information Social Support from Parents (INSP), and Instrument Social Support from Parents (ISSP) was significantly established to the sample data fit. Consequently, it can be concluded that the Model C was fitted to the sample data of covariance between exogenous variables. This concludes that all the variables of social support from parents were significantly related, AFSP, INSP, and ISSP ($p < .005$).

❖ **Model D of social support from peers output**

The results presented in the same chapter (Section 5.3.1.4) have revealed that the Model D of Social Support from Parents (SSPS) including Affective Social Support from Peers (AFSPS), Information Social Support from Peers (INSPS), and Instrument Social Support from Peers (ISSPS) was significantly set to the sample data fit. Therefore, it can be concluded that the Model D was fitted to the sample data of covariance between exogenous variables. This concludes that all the variables of social support from parents were significantly related, ASSPS, INSPS, and ISSPS ($p < .005$).

❖ **Model E of cultural differences output**

The results presented in the same chapter (Section 5.3.1.5) have demonstrated that the Model E of Cultural Differences (CD) including Knowledge of Culture (KC), Motivational Culture (MC), and Behavioural Culture (BC) was significantly confirmed to the sample data fit. Thus, it can be concluded that all the variables of social support from parents were significantly related to KC, MC, and BC ($p < .005$).

What are the positive factors that influence peer interactions among francophone adolescent learners in the selected high schools in the Western Cape?

The study findings have revealed that cooperative learning, sharing ideas and answers, quality classroom climate as positive factors influence the peer interaction at schools and the discussions of results related to the literature in debated in Chapter 2.

❖ **Cooperative learning**

The study results have shown that the majority of the participants believed that working together in classroom contributed to higher quality of peer interaction at school. However, peer interaction among learners was found to be a value for participants. At school, all participants needed to learn and work in mutual respect, satisfactory and cooperative environment with others learners for academics successes.

❖ **Sharing ideas and answers**

The findings have indicated that most of the participants revealed that sharing ideas and answers were positive factors influence that peer interactions among francophone adolescent learners at schools.

❖ **Participant's autonomy**

The findings have shown that all participants gained autonomy in classroom through peer interaction. This interaction allowed them to be less dependent on peers or teachers' thinking. It further helped them to exchange their life and/or academic experiences with peers and to understand their peers' points of view and to become autonomous.

❖ **Quality classroom climate**

The findings have revealed that quality classroom climate influenced peer interaction among participants in schools.

❖ **Feeling a sense of school belonging**

The study findings have further suggested that the feeling of a sense of belonging among participants could influence peer interactions at school. The study participants considered that interactions with their peers usually started with friendship and acceptance, which could be factors that facilitated a sense of belonging to the school community, while others believed that this weakened the feeling of connection and deterred the development of acceptance and belongingness. This belongingness consisted of the need to be related with their peers to themselves and to be accepted and live their similar life within the school community.

❖ **Peer supports**

The study findings have demonstrated that peer support positively influenced peer interaction at schools. In this study, it is important to interpret support behaviours from peers as positive emotional support, as it related to care, empathy, enthusiasm, acceptance, and respect.

What are the negative factors that influence peer interactions among francophone adolescent learners in the selected high schools in the Western Cape?

The study findings have revealed that peer rejection, and peer bullying including unfriendly, lack of understanding of diversity and peer support, being ignored by peers, unfamiliarity with their peers were negative factors that could influence the peer interaction at schools.

❖ **Peer rejection**

Participants experienced different types of rejection behaviours by their peers when approaching to interact or cooperate at high schools in the Western Cape. Among these behaviours are the feeling of being ignored, unfamiliarity, lack of friendship, and lack of understanding diversity when approaching to interact or cooperate at high schools in Western Cape. These negative behaviours should not be considered in isolation but they should be considered as a peer rejection issue that can influence peer interactions at schools. Furthermore, the findings have reported that participants were affected by peer rejection through being ignored during interactions or cooperative learning at schools. This could appear as a factor that led participants to develop the feeling of isolation from their peers.

❖ Peer bullying

The study results have revealed that peer bullying was a negative factor that affected peer interaction among francophone adolescent learners in the high schools. This study has considered peer bullying as a complex phenomenon that can be taken from diverse forms including aggression, intimidation, and robbing, and calling names within schools.

7.4 Limitations of the study

This study offered quantitative and qualitative approaches on the psychosocial factors that influenced peer interactions among adolescents and was confronted with various limitations to be considered. With regard to the methodological consequences, this study has used purposeful and convenience samplings. Therefore, the findings are limited to this scope and they cannot allow the researcher to generalize the findings. Therefore, a first study for francophone adolescent learners of psychosocial factors instrument, further research is required to help generalize these study findings to the wider range of the sample size. This clearly requires more research to be conducted on psychological factors affecting francophone adolescent learners in high schools with regard to the sample size of schools, districts in the Western Cape and South Africa. As the data for francophone adolescent learners obtained in this study were at a particular transversal period in their lives, the researcher recommends a further study that may gather data over time so as to evaluate the psychosocial factors and peer interaction related to the progress and performance among francophone adolescent immigrant learners from their newly-arrived period until a total integration in the South African school community.

Furthermore, this study has revealed that measures of empathy, sympathy, emotional regulation have limitations that relate to internal and external validity. Therefore, this study recommends for a better understanding of the psychosocial factors in general and psychological factors, gender, differences in particular and that further studies are needed to utilize various methods that can elicit diverse conditions.

7.5 Recommendations

With regard to lower peer interaction, this study recommends that peer interaction in school should be encouraged and improved at issues related to learners and teachers, parental involvement, methodology, and curriculum issues.

❖ **Learners, teachers, and parental involvement aspect**

Lower quality of peer interaction leads to dissatisfaction and stress. Learners need to maintain their engagement in learning in order to produce the warmth, sense of belonging in schools, and an environment for sharing ideas among their peers at schools. At parental involvement level, Coldwell, *et al.* (2002) highlighted the importance of schools communications with parents as it allows them to understand the circumstances and places of bullying incidents occurring at schools. It further allows them to defeat isolation experienced in schools and reducing the sense of being left in the dark.

Consequently, teachers may engage in teaching and promoting cooperative learning, competence, classroom climate, and autonomy. These can allow the learners to undermine the lower quality of peer interactions in schools. Teachers and educational decision makers should take into consideration negative factors such as rejection, being ignored and bullying as personal affront evidence that affect adolescent learners. This will help the teachers to provide successful opportunities for learners' social skills development with appropriate preparation such as lessons that allow them to work in groups using interacting with their peers at schools. Also, there is a need for the use of collectivistic and competitive approaches in class as these can profitably allow cooperation, sharing experiences, feeling sense of belonging as the centre of peer interaction at schools. Teachers need to identify learners who perform very well in social skills in order to work together with others and create this good atmosphere of peer interactions in classes.

The results of this study have demonstrated the gender, and age differences in cultural differences. Teachers, parents, educational specialists, and psychologists must take into considerations cultural differences issues to prevent barriers including adaptation and effectiveness of language problems, learners' preferred cultural learning style, differing views about interactions between teachers and learners and amongst peers, based on cultural experiences and traditions.

The recent findings offer clarity to the psychosocial factors that affect peer interaction among francophone adolescent learners in the selected high schools in the Western Cape. The study recommends further investigation on why some immigrant adolescents perform better or integrate relatively easier than others who still struggle and remain vaguer regard to peer interaction. This needs to be analysed at four levels including the political aspect or curriculum, methodological, researcher, and family or community aspects. Francophone adolescent learners

need special needs and support as they adjust to new curriculum, new culture, and school environment.

Educational, psychological and research organizations within and across South Africa will benefit a better understanding of cultural intelligence through cultural differences. Learners having knowledge of culture, motivational culture, and behavioural culture will be able to adapt their interactions with others from another culture. They will not feel threatened during their peer interactions circumstances. They will be able to transfer knowdle from one culture to another that will help the schools to decision makers including educators, psychologists, and researchers in multicultural settings.

❖ Curriculum aspect

Teachers are accepted to implement the established curriculum, to address the issues of large classes and lack of resources in order to facilitate peer interaction at schools. The curriculum needs to encourage the teaching of social skills for effective peer interaction and it should provide the foundation for children's success at schools.

Evidence in this study has showed a lack of respect for different cultures in socio-economic status. Therefore, this study recommends to teachers, principals and learners to implement the curriculum of inclusive education as required by the DoE (2001). It application allows to prevent the adolescents' well-beings, cooperative learning and altruism behaviours that will increase the social skills and interpersonal relationships among leaners at schools. This study provides an understanding of peer interaction among adolescents with regard to the social relation at schools, and this will allow developing an intervention programme for immigrant adolescent learners and need of qualified teachers for learning supports at South African schools.

The procedure of teachers to implement inclusive education with regard to collective, interpersonal relation and practices may integrate training on how peer interaction among learners can reduce peer rejection and discourage discrimination in the school community. Therefore, teachers may implement policies that encourage positively the interaction between hosted learnersand immigrants including the creation of neighbourhood play spaces, social and sportive league activities, which give opportunities to all immigrant learners from diverse backgrounds to perform their cooperative, autonomy, friendship, and sense of belonging at

schools. This may prevent bullying, rejection, discrimination, lack of diversity and substitute to harmony in the global schooling community in the Western Cape.

❖ **Researcher aspect**

As the importance of classroom climate is to establish and maintain a positive atmosphere in classroom, the role of educational psychologists is to increase support to teacher and learners by taking their needs into account. Educational psychologists and researchers need to establish an intervention programme of anti-bullying behaviours in order to reduce subsequently the occurrence of bullying and its consequences on victims at schools (Salmivalli, 2001). They must provide knowledge and material resources to teachers and parents in terms of positive social support and help them to understand their supportive role in order to be significantly involved in their children's education. They must consider peer support as very important in the interactions among children at schools and in their life. This developmental intervention programme will consist of encouraging an open communication in terms of bullying and allow the teacher, parents and peers involvement in monitoring their consistent needs and addressing the real consequences of bullying issues and specific goals to treat peer rejection and discrimination among learners. Since, the findings of this study have revealed gender and age differences on aggressiveness, and peer bullying as negative factors for peer interaction, the intervention program needs to take into consideration these negative factors including aggression and bullying within in the Western Cape high schools. It would be relevant to promote further researches that extend the understanding of the psychosocial factors among adolescents in high schools with regard to peer rejection, peer acceptance, loneliness or isolation among adolescents. As the results of this study have revealed insignificant differences between grade levels and aggression, the researcher therefore recommends further study as this issue has not been examined yet in the previous studies.

As there is an advanced studies in recent years about psychosocial factors and psychological factors, cultural differences, and peer interaction among adolescents, this study recommends the integration of specific social support including parents, teachers, and peers.

Further research is needed to examine the relationship between aggressiveness and contextual variables such as community, family, and schools in the Western Cape high schools.

7.6 Reflections on the study

The value of this study in the educational psychology is to seek the understanding of adolescent lives and their ways of interacting with their peers in the multiculturalism South Africa schools. The major contribution of this study is to find multiple psychological and sociocultural factors that can influence francophone adolescent learners in the high schools and reported their negative factors. It is known that francophone adolescent learners had differently negative experiences their interaction life at schools in South African schools, but these are largely considered in terms of African dynamics, whereas they challenge with the language of instruction barriers, policy, and practices of curriculum strategies that are not accommodated to their sociocultural background at schools. Thus, they feel being discriminated, rejected, bullied, and ignored by their hosted peers than feel a sense of belonging in the school community. Their challenges are not about citizenship with identity documentation, but it is about over concrete daily requirements for the sense of human life and human rights, and space that it attends them during their academic success. As this study has revealed lack of respect for different cultures in terms of socio-economic status, it is essential to not only acknowledge the diversity factor amongst immigrant francophone adolescent learners in South Africa, but also to integrate the linguistic and cultural differences of minority groups into the very broad school environment, so that all learners can have a sense of belonging and consider school in South Africa as home. This way would allow all learners without exception to become enthusiastically engaged and productive in their academic achievements through a global and local citizen of the world guided by collective human values. Since peer interaction is essential to have an active school learning environment for both francophone and host South African adolescent learners, the teachers need to develop these interactions among learners at the schools. This study believed that gaining cultural differences can help adolescent learners to integrate necessary information on culture in their own frame of reference. This study acknowledged the relevance of the cultural differences context such as knowledge of culture, motivational of culture, and behavioural culture that can influence the peer interaction among francophone adolescent learners in the high schools.

7.7 Summary and conclusion of the chapter

The current study has investigated the psychosocial factors that could affect peer interaction among francophone adolescent learners in the selected high schools in the Western Cape. This

study has found evidence that peer interactions were insignificant to demographic characteristics (gender, age and grade level) among francophone adolescent learners in the selected high schools in the Western Cape. The study also found that emotional regulation play a significant influence in demographic characteristics (gender, age, and grade level) among francophone adolescent learners in the selected high schools in the Western Cape. It further found that aggressiveness significantly impacted gender and age, except for the variable grade level among francophone adolescent learners in the selected high schools in the Western Cape. This study also found that empathy has had a great influence on gender and grade level, but had an insignificant difference on age among francophone adolescent learners in the selected high schools in the Western Cape. It further found age and grade level as insignificant differences to sympathy among francophone adolescent learners in the selected high schools in the Western Cape, but a significant influence were found on gender. This study also found insignificant differences between demographic characteristics (gender, age, and grade level) and cultural differences including knowledge of culture, motivational culture and behavioural culture among francophone adolescent learners in the selected high schools in the Western Cape.

With regard to the responses of research questions, found positive relationships between emotional regulation and sympathy, whereas negative correlation was found for aggressiveness and empathy for the range age of 14 and 16 years old. It further found a positive relationship between emotional regulation, aggressiveness, and sympathy and peer interactions, while a negative association was shown between empathy and peer interaction for 17-19 years old.

Furthermore, the study found a weak positive relationship between peer interaction and social supports from teachers including affective, instrumental, and informational for 14-16 years old. It found a moderate correlation between affective, instrument social support and peer interaction, whereas a weak association was found for informational social support for 17 to 19 years old. The study found a very weak positive correlation between affective and instrumental social support from parents and peer interaction, whereas a very weak negative relationship shows with information for 14-16 years old. It further reported moderate correlations between all three types of social support from parents and peer interaction for the range of 17-19 years old.

The study found a weak correlation between both affective and instrumental social support scores and peer interaction, while a moderate association between affective support from peers

and peer interaction scores was subsequently found for the range of 14-16 years old. It found a moderate relationship between affective social support from peers scores and peer interaction, whereas a weak correlation appears between informational and instrumental social support and peer interaction for the range of 17-19 years old.

The study found a positive moderate correlation between knowledge of culture and motivational culture and peer interaction, while a positive weak association was reported for the range of age for 14-16 years old. It found a moderate correlation between motivational culture and behavioural culture and peer interaction as a positive weak association with knowledge of culture for 17-19 years old. It also found a positive relationship between emotional regulation, sympathy and peer interaction, as a negative correlation between aggressiveness, empathy, and peer interaction for males. It found a positive relationship emotion regulation, empathy, sympathy and peer interaction, while a negative correlation between aggressiveness and peer interaction for females.

With regard to gender, this study reported a positive weak correlation between emotional regulation and sympathy and peer interaction, while a negative weak correlation was established between aggressiveness and empathy and peer interaction for males. It also established a positive weak relationship between emotional regulation, empathy, sympathy and peer interaction, and a very weak negative correlation was found between aggressiveness and peer interaction for females. It further reported positive weak relationships between affective, informational, instrument social support from teachers and peer interaction for males. The study further reported a moderate positive effect correlation between peer interaction and instrumental social support from teachers, while positive weak relationships were found between peer interaction, affective, and informational social support from teachers for females.

The study also found a very weak positive association between affective social support and peer interaction, while a negative weak correlation was found between information, and instrumental social support and peer interaction for males. It also reported that all three broad types of social supports were significantly related with peer interaction, whereas, it reported a moderate correlation appears between affective and instrumental and a weak correlation was found for informational for females.

The study further established a weak association between affective and informational support and, a very weak relationship between instrumental and peer interaction for males. It found a moderate relationship between affective and informational, and a weak correlation was found between instrumental support and peer interaction for females.

The study established a moderate association between both knowledge of culture and motivational culture and peer interaction, and a weak association was found between behavioural cultures and peer interaction for males. It also found a moderate relationship between knowledge of culture motivational, behavioural cultures, and peer interaction for females.

As regards to grade level, this study reported a positive moderate correlation between aggressiveness and peer interaction, while a negative correlation was found between emotional regulation, empathy and sympathy and peer interaction for 8th grade level.

The study also found a weak relationship between emotional regulation, empathy and sympathy and peer interaction, as well as a very weak negative correlation was found between aggressiveness and peer interaction for 9th grade level. It also found a positive strong correlation between emotional regulation and peer interaction, and a weak relationship was found between empathy, sympathy and peer interaction within peer interaction for 10th grade level, while a negative moderate association was found between aggressiveness and peer interaction at the same grade level.

This study found a positive moderate correlation between aggressiveness and sympathy and peer interaction and a weak relationship is found in emotional regulation for 11th grade level. It further found a negative correlation between empathy and peer interaction at the same grade level.

This study reported a negative weak correlation between emotional regulation, empathy, and sympathy within peer interaction for 12th grade level, while a positive strong correlation was found between aggressiveness and peer interaction at the same grade level.

It found a negative very weak relationship between affective and instrumental social support from teachers and peer interaction for 8th grade level, while positive very weak relationship was found between informational social supports at the same grade level. The study further reported a positive moderate correlation between informational, and instrumental social support from teachers and peer interaction for 9th grade level, and a weak relationship was found with affective

social support at the same grade level. It further found a moderate correlation between affective social support and peer interaction for 10th grade level, and it found a weak relationship with informational social support, and a strong relationship with instrumental social support at the same grade level. This study found a positive strong association between affective social support and peer interaction, a moderate correlation with instrumental, and a weak one with informational social support for 11th grade level. This study finally found a positive weak correlation between affective and instrumental social support and peer interaction for 12th grade level, while a negative weak relationship was found between informational social supports from peers at the same grade level.

It also found a positive weak correlation between affective, informational, instrumental social support from parents and peer interaction for 8th grade level. It found a positive weak correlation between affective and instrumental social support from parents with peer interaction for 9th grade level, while a negative weak correlation was found with informational social support at the same grade level. It also found negative weak and moderate correlations between informational and instrumental social support for 10th grade level, while a moderate positive correlation was found between affective social support and peer interaction at the same grade level. This study found a positive moderate correlation between affective, informational, social support from parents and peer interaction for 11th grade level, as well as a strong relationship with instrumental social support at the same grade level. It finally found a positive moderate correlation between affective, informational, instrumental social support from parents for 12th grade level, and a strong correlation was found with informational social support from parents at the same grade level.

This found a positive association between affective, informational, and instrumental social support from peers and peer interaction for 8th grade level. It also found a positive correlation within affective, informational, instrumental social support from peers and peer interaction for 9th grade level. It found a negative strong correlation between affective informational and instrumental social support from peers and peer interaction for 10th grade level. It found a positive strong association between affective, informational, and instrumental social support and peer interaction for 11th grade level. It finally found a positive correlation between affective, informational, and instrumental social support from peers and peer interaction for 12th grade level.

The study further found a positive association between both knowledge of culture and motivational culture within peer interaction for 8th grade level, while a negative relationship was found within behavioural culture at the same grade level. It also found positive moderate correlations between knowledge of culture, behavioural culture and peer interaction for 9th grade level, and weak relationship was found within motivational social support at the same grade level. It found a positive correlation between knowledge of culture, motivational and behavioural culture and peer interaction for 10th grade level. This study found a positive strong correlation between both knowledge of culture and motivational culture within peer interaction for 11th grade level, and a moderate correlation was found with behavioural and peer interaction at the same grade level. This study finally found a negative strong correlation between both knowledge of culture and motivational culture within peer interaction for 12th grade level, while a positive moderate correlation was found between behavioural cultures and peer interaction at the same grade level.

With regard to positive and negative factors that influence the emergence of peer interaction, this study found cooperative learning, sharing ideas and answers, quality classroom climate as positive factors. It further found peer rejection, and peer bullying including unfriendliness, lack of understanding of diversity and peer support, being ignored by peers, unfamiliarity with their peers as negative factors. This study finally culminated with the limitations, recommendations, and reflections that concluded this research.

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UNIVERSITY of the
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APPENDICES

Appendix 1: Ethical Clearance from the University of the Western Cape

DEPARTMENT OF RESEARCH DEVELOPMENT

10 November 2016

To Whom It May Concern

I hereby certify that the Senate Research Committee of the University of the Western Cape, at its meeting held on 27 November 2015, approved the methodology and ethics of the following research project by: Mr KR Mukuna (Education)

Research Project: Psychosocial factors that influence peer interactions among francophone adolescent learners in selected high schools in the Western Cape, South Africa

Registration no: 15/7/129

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

The Committee must be informed of any serious adverse event and/or termination of the study.

*Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape*

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Appendix 2: Authorisation to conduct research for the western cape Education Department

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tel: +27 021 467 9272

Fax: 0865902282

Private Bag x9114, Cape Town, 8000

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REFERENCE: 20150715-1279

ENQUIRIES: Dr A T Wyngaard

Mr Kananga Mukuna
2 Libra Street
Cravenby
7394

Dear Mr Kananga Mukuna

RESEARCH PROPOSAL: PSYCHOSOCIAL FACTORS AFFECTING PEER INTERACTIONS AMONG FRANCOPHONE ADOLESCENT LEARNERS IN SELECTED HIGH SCHOOLS IN THE WESTERN CAPE, SOUTH AFRICA

Your application to conduct the above-mentioned research in schools in the Western Cape has been approved subject to the following conditions:

1. Principals, educators and learners are under no obligation to assist you in your investigation.
2. Principals, educators, learners and schools should not be identifiable in any way from the results of the investigation.
3. You make all the arrangements concerning your investigation.
4. Educators' programmes are not to be interrupted.
5. The Study is to be conducted from **25 January 2016 till 25 April 2016**
6. No research can be conducted during the fourth term as schools are preparing and finalizing syllabi for examinations (October to December).
7. Should you wish to extend the period of your survey, please contact Dr A.T Wyngaard at the contact numbers above quoting the reference number?
8. A photocopy of this letter is submitted to the principal where the intended research is to be conducted.
9. Your research will be limited to the list of schools as forwarded to the Western Cape Education Department.
10. A brief summary of the content, findings and recommendations is provided to the Director: Research Services.
11. The Department receives a copy of the completed report/dissertation/thesis addressed to:

**The Director: Research Services
Western Cape Education Department
Private Bag X9114
CAPE TOWN
8000**

We wish you success in your research.

Kind regards.

Signed: Dr Audrey T Wyngaard

Directorate: Research

DATE: 14 January 2016



UNIVERSITY of the
WESTERN CAPE **Appendix 3: Information sheet**

Title of the study:

Psychosocial factors that influence peer interactions among francophone adolescent learners in selected high schools in the Western Cape, South Africa

Researcher: Mukuna Kananga Robert

Email: robert_mukuna@yahoo.fr or 3212393@myuwc.ac.za

Cell phone: (+27) 81 045 14 73

What are the aims and objectives of this study?

This study aims to determine the relationship between psychosocial factors (psychological factors: emotional regulation, aggressiveness, sympathy, empathy; social support; and cultural differences), and peer interactions through demographic details (gender, age, and grade level) among francophone adolescent learners in the selected high schools in the Western Cape. It further purposes to determine the positive and negative factors that can affect their peer interactions at high schools in the Western Cape.

Who is responsible for data collection in this study?

Mukuna Kananga Robert, researcher is responsible and a PhD candidate at the university of the Western Cape (UWC).

This study will collect quantitative and qualitative data from adolescent francophone learners in the selected high schools in the Western Cape. This study will use mixed methods with data collected. The data will be stored in the locked up boxes and will be disposed of after 10 years by the researcher.

The study was passed by the Senate Research Committee of the University of the Western Cape, at its meeting held on 27 November 2015, approved the methodology and ethics.

What is involved in this study?

This study involves three phases for data collection. The first phase consists of pilot survey in order to develop the questionnaires and determine the feasibility and availability of participants.

The second phase concerns the quantitative data through questionnaires to the participants. Finally, a follow-up of data collection was conducted by face-to-face interviews in order to respond to the research questions assigned in this study.

What are the risks involved in this study?

This study did not expect that participants will feel anything bad when completing these questionnaires or face-to-face interviews. If a participant becomes upset, the researcher can refer him/her to the health and preventative services for assistance.

What are the benefits for taking part in this study?

Participant (You) helped the researcher to know the feasibility and need to conduct the main study. It helped to understand the different questionnaires, and determine the recruitment, refusal, failures and success rates. It helped to assess the time and budget issues that will involve in the main study. It helped to evaluate the potential human and availability of the needed data, the willing of participations, time for data collection and data analyse for the main study.

What are the rights of participants?

The participation is voluntary. Participants can refuse to participate before, during or after completing the questionnaire without any problem.

Will participant receive any payment or monetary benefits?

Participants will receive no payment for their participation to this study. The data will not be used by researcher for commercial purposes. Thus, participants will not expect any payments from this research in the future.

What if I have concerns about this research?

If you are worried about this research, or if you are concerned about how it is being conducted, you can contact my supervisor: **Professor Mokgadi Moletsane Kekae** at the University of the Western Cape (UWC). Contact details: **021 959 24 29**
(or email at mmoltsane@uwc.ac.za)



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Appendix 4: Learner's consent approved form (Pilot study)

1. Study title	Psychosocial factors that influence peer interactions among francophone adolescent learners in selected high schools in the Western Cape, South Africa
2. Performance sites	Participants (Children) who are enrolled in the private or public high schools in the Western Cape and willing to participate were involved in this study.
3. Purpose of the study	<ol style="list-style-type: none"> 1. To develop psychological factors subscale for francophone adolescent learners in the selected high schools in the Western Cape. 2. To develop social support from teacher, parent, and peers subscale for francophone adolescent learners in the selected high schools in the Western Cape. 3. To develop cultural differences subscale for francophone adolescent learners in high schools in the Western Cape. 4. To develop peer interaction scale for francophone adolescent learners in high schools in the Western Cape.
4. Participant inclusion	Participants in this study involved of 7 th to 12 th grade level fo francophone adolescents learners and aged of 14 to 20 years old.
5. Size sample	The sample size of participants comprised of 170 francophone adolescent learners who were invited to complete psychosocial factors questionnaire including psychological factors scale, social support scale, cultural differences scale and peer interaction scale.
6. Study procedures	Participants were asked to complete these questionnaires (psychological factors, social support from teacher, parent, peers, cultural differences, reactions to peer interactions) that are related to their day-to-day life. The filling out of these questionnaires took at least 45 minutes. No one but the researcher will see participant's answers. The researcher further removed participant's name from answer sheets, so that name cannot be identified answers.
7. Benefits	Participant (You) helped the researcher to know the feasibility and need to conduct the main study. It helped to understand the different questionnaires, and determine the recruitment, refusal, failures and success rates. It helped to assess the time and budget issues that will involve in the main study. It helped to evaluate the potential human and availability of the needed data, the willing of participations, time for data collection and data analyse for the main study.
8. Risks/Discomforts	This study did not expect that participants will feel anything bad when completing these questionnaires. If a participant becomes upset, the researcher can refer him/her to the health and preventative services for assistance.

9. Right to Refuse	Participants can refuse to participate before, during or after completing the questionnaire without any problem.
10. Right to Privacy	This study may be published, but participant's names will not be included in the publication as participant.

Name of learner _____
Signature of the learner _____
Date _____/_____/_____

Thank you.

Mukuna Kananga Robert

Email: robert_mukuna@yahoo.fr or 3212393@myuwc.ac.za

Cell phone: (+27) 78 44 11 701

NB: For verification please feel free to contact my supervisor, **Professor Mokgadi Moletsane Kekae** at the University of the Western Cape. Contact details: **021 959 3590**.



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Appendix 5: Approved parental permission form (Pilot study)

Project title	Psychosocial factors that influence peer interactions among francophone adolescent learners in selected high schools in the Western Cape, South Africa
Reason to conduct this research study	This research study is conducted by Mr Mukuna Kananga Robert from the University of the Western Cape (UWC, Student Number: 3212393). The researcher invites your child to participate in his study. The reason of this research study is to develop the questionnaires on psychosocial factors influencing peer interactions among francophone adolescent learners in high schools in the Western Cape Province in South Africa.
What will my child is asked to do?	If you allow your child to participate in this study, she/he will be given 45 minutes to fill the questionnaires regarding to psychological factors scale, social supports received from their teachers, parent, peers scale, cultural differences scale, and peer interactions scale. The school provided a classroom that will be reserved of completing these questionnaires for purpose of this study. The researcher will read all the questionnaires for them to make sure if all learners understand the questions and instructions that they are answering for this research.
What are the benefits of this research?	This research is not designed to help you or your child personally, but the results may help the researcher to learn more about psychological factors, social supports, cultural differences, and peer interactions among francophone

	adolescent learner in the high schools in the Western Cape.
What is if I have question?	In fact, if you have any questions about the research study itself please contact Mr Mukuna Kananga Robert at 081 0451473 or robert_mukuna@yahoo.fr If you have questions about rights as a research participant or wish to report research related injury, please contact my supervisor office 021595 3590. This research has been reviewed according the University of the Western Cape procedures of research involving human subjects.
Benefits of this study	Completion of this study will help the researcher to understand the feasibility and determine the reliability of psychosocial factors scale including psychological factors, social support, cultural differences), and peer interactions scale for francophone adolescent learners in the selected high school in the Western Cape.
Risks/Discomforts	There are no known risks associated with participation. If a participant should experience distress during the process of data collection in this study; the researcher can provide health and preventative services referrals to children and their families.
Right to Refuse	Participants may choose not to participate or to withdraw from the study at any time, before, during, or after without any penalty.
Right to Privacy	Results of the study may be published, but no names or identifying information will be included in the publication. The information of your child will be identified by code rather than name. Participant's identity will remain confidential unless disclosure is required by law.
Statement of age of subject and consent	Your signature indicates that You are at least 20 years of age The research has been explained to you, Your questions have been fully answered and You freely and individually allow your child to participate in this study.
	My child can participate in the survey Yes <input type="checkbox"/> No <input type="checkbox"/>
	My child can participate in the audio-recorded interview Yes <input type="checkbox"/> No <input type="checkbox"/>

The study participant has indicated to me that he/she is unable to read. I certify that I have read this consent form to the participant and explained that by completing the signature line above, the participant has agreed to participate.

Name of parent _____
Parent signature _____
Name of the learner (Child) _____
Date ____/____/_____
Thank you

Mukuna Kananga Robert

Email: robert_mukuna@yahoo.fr or 3212393@myuwc.ac.za

Cell phone: (+27) 78 44 11 701

NB: For verification please feel free to contact my supervisor, **Professor Mokgadi Moletsane Kekae** at the University of the Western Cape (UWC). Contact details: **021 959 3590**.

Appendix 6: Biographical form

Instruction: Please read each item or question, and tick each statement is adequate for you below:

Example: If you are a male tick X, if you are female tick X

<i>Gender</i>	<i>Male</i>	<i>X</i>
	<i>Female</i>	<i>X</i>

Demographic characteristics		Total sample
Gender	Male	
	Female	
Age	Under 13 Years	
	13-16	
	17-20	
	21-24 more	
	High school	
Current school level	High school	
Country of origin	DR Congo	
	Cameroon	
	Republic of Congo	
	Central African Republic	
	Ivory Coast	
	Senegal	
	Other (specify)	
Residential area	Urban	
	Rural	
Guardian (parent)	Parent (dad & mom)	
	Dad (father only)	
	Mom (mother only)	
	Other (specify)	
Parental occupations	Father (Dad)	
	Mother (Mom)	
	Other (specify)	
Number of occupants at home	<less than 2	
	2-5	
	6-9	
	>more than 10	
About how many close friends do you have? (Number of close friends)	At school	
	At home	
Which language are you fluent at?	French	
	English	
	Other (specify)	
Duration of being in South Africa (How many year (s) have been in speaking English in south Africa)	New come	
	6 12 Months	
	1-3 Years	
	3-5 Years	
	5-More Years	
Hobbies		

Appendix 7: Psychological factors subscale for Francophone Adolescent Learners (FAL)

Researcher:

School:

Teacher:

Date:

Gender:

Race/Ethnicity:

Residential area:

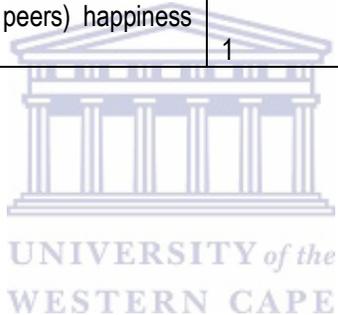
Instruction: Please read each item or question, and rate how often each statement is understandable and adequate for you. The scale starts from 1 to 5. (1= totally agree, 2= agree, 3= Neutral, 4= Disagree, 5 =Totally disagree)
Please circle one of the numbers below:

Example:

I feel free to interact with other learners (peers) at school.

<i>Totally agree</i>	1	<i>Agree</i>	2	<i>Neutral</i>	3	<i>Disagree</i>	4	<i>Totally disagree</i>	5	
SECTION 1: Emotional regulation										
	I feel comfortable when interacting with other learners (peers) at school.					1	2	3	4	5
	I feel angry with other learners (peers) when they criticize me at school.					1	2	3	4	5
	I am not comfortable to interact with other learners (peers) at school.					1	2	3	4	5
	I try to relax when interacting with other learners (peers) at school.					1	2	3	4	5
	I feel free to ask for support/help/assistance when interacting with other learners (peers) at school					1	2	3	4	5
	It is difficult for me to ask for help from other learners (peers) when interacting at school.					1	2	3	4	5
SECTION 2: Aggressiveness										
	1.I feel angry with other learners (peers) who roll their eyes at me in class.					1	2	3	4	5
	2. Other learners (peers) tell me they slap at me when interacting at school					1	2	3	4	5
	3.I reprimand my peers when they tell me they have slapped me.					1	2	3	4	5
	4. Other learners (peers) tell to me they will hit me if I interact with them at school.					1	2	3	4	5
	I am uncomfortable with other learners at school.					1	2	3	4	5
	Other learners (peers) call me names when interacting at school.					1	2	3	4	5
	Other learners (peers) tell me they will hurt me when interacting with them at school.					1	2	3	4	5
	I am not happy with other learners at school.					1	2	3	4	5
	Other learners (peers) take things from me that I do not want to give to them in school.					1	2	3	4	5

SECTION 3: Empathy (emotional support)					
1. I feel accepted by other learners (peer) when interacting with them at school.	1	2	3	4	5
2. I feel compassion towards other learners (peers) when interacting with them at school.	1	2	3	4	5
3. I observe at peer's face to gain understanding while interacting with them at school.	1	2	3	4	5
I smile with other learners (peer) when speaking in class.	1	2	3	4	5
I join in task group with other learners (peers) in class.	1	2	3	4	5
SECTION 4: Sympathy					
I feel pity towards other learners (peers) when they are unhappy in school.	1	2	3	4	5
I feel sorry for other learners (peers) who are treated unfairly at school.	1	2	3	4	5
I feel concerned for other learners (peers) who feel sad when at school.	1	2	3	4	5
I feel bad for other learners (peers) who called me names when interacting at school.	1	2	3	4	5
I understand their (other learners, peers) happiness when interacting at school.	1	2	3	4	5



Appendix 8: Social support from teachers, parents, peer subscale for Francophone Adolescent Learners (FAL)

Researcher:

School:

Leaner:

Date:

Gender:

Race/Ethnicity:

Residential area:

Instruction: Please read each item or question, and rate how often each statement is understandable and adequate for you. The scale starts from 1 to 5. Likert scale (1=*Very much agree*, 2= *Agree*, 3= *Neutral*, 4= *Disagree*, 5= *Very much disagree*) Please circle one of the numbers below:

Example:

My parent helps with homework at home

<i>Very much agree</i>	1	<i>Agree</i>	2	<i>Neutral</i>	3	<i>Disagree</i>	4	<i>Very much disagree</i>	5
------------------------	---	--------------	---	----------------	---	-----------------	---	---------------------------	---

SOCIAL SUPPORT FROM MY TEACHER					
Affective (Emotional) support					
My teacher shows me friendly feelings when I want to talk in class.	1	2	3	4	5
My teacher usually says that he/she is proud of me when interacting with other learners (peers) in class.	1	2	3	4	5
My teacher understands me when I am frustrated in class.	1	2	3	4	5
My teacher listens to me when I am spelling English in class.	1	2	3	4	5
My teacher treats me equally as other learners (peers) in class.	1	2	3	4	5
My teacher makes sure I am accepted by other learners (peers) in class.	1	2	3	4	5
My teacher encourages me to be engaged in group task when interacting with other learners (peers) in class.	1	2	3	4	5
Informational support					
My teacher advises me to interact with other learners (peers) in school.	1	2	3	4	5
My teacher helps me to develop my reading, and spelling skills in school.	1	2	3	4	5
My teacher helps me to solve problems by giving me information in class.	1	2	3	4	5
My teacher is willing to give me individual attention in class.	1	2	3	4	5
My teacher gives me guidance when I do not know	1	2	3	4	5

what to do in class.					
Instrumental support					
My teacher allows me to speak with other learners (peers) to perform my interaction skills in class.	1	2	3	4	5
My teacher allows me to assist other learners with classwork.	1	2	3	4	5
My teacher gives me advice to read, speak in class.	1	2	3	4	5
SOCIAL SUPPORT FROM MY PARENT					
Affective (emotional) support					
My parent shows to me friendly feelings when I want to talk at home.	1	2	3	4	5
My parent said that he/she is proud of me when interacting with other learners (peers).	1	2	3	4	5
My parent understands me when I am frustrated in class.	1	2	3	4	5
My parent listens to me when I am spelling English.	1	2	3	4	5
My parent treats me equally as other children.	1	2	3	4	5
My parent makes sure I am accepted by other learners (peers) in class.	1	2	3	4	5
My parent encourages me to be engaged in group task when interacting with other learners (peers) in class.	1	2	3	4	5
Informational support					
My parent advises me to interact with other learners (peers) in school.	1	2	3	4	5
My parent helps me to develop my reading, and spelling skills in school.	1	2	3	4	5
My parent helps me to solve problems by giving me information in class	1	2	3	4	5
My parent is willing to give me individual attention in class.	1	2	3	4	5
My parent gives guidance when I do not know what to do in class.	1	2	3	4	5
Instrumental support					
My parent allows me to speak with other learners (peers) to perform my interaction skills in class.	1	2	3	4	5
My parent allows me to assist other learners with classwork.	1	2	3	4	5
My parent gives me advice to read, speak in class.	1	2	3	4	5
SOCIAL SUPPORT FROM MY CLASSMATES					
Affective (emotional) support					
My peers (classmates) show me friendly feelings when I want to talk in class.	1	2	3	4	5
My peers (classmates) said that he/she is proud of me when interacting with them in class.	1	2	3	4	5
My peers (classmates) understand me when I am frustrated in class.	1	2	3	4	5
My peers (classmates) listen to me when I am spelling English in class.	1	2	3	4	5

My peers (classmates) treat me equally as other learners in class.	1	2	3	4	5
My peers (classmates) make sure I am accepted by them in class.	1	2	3	4	5
My peers (classmates) encourage me to be engaged in group task when interacting with them in class.	1	2	3	4	5
Informational support					
My peers (classmates) advise me to interact with other learners in school.	1	2	3	4	5
My peers (classmates) help me to develop my reading, and spelling skills in school.	1	2	3	4	5
My peers (classmates) help me to solve problems by giving me information in class.	1	2	3	4	5
My peers (classmates) are willing to give me individual attention in class.	1	2	3	4	5
My peers (classmates) give guidance when I do not know what to do in class.	1	2	3	4	5
Instrumental support					
My peers (classmates) allow me to speak with other learners (peers) to perform my interaction skills in class.	1	2	3	4	5
My peers (classmates) allow me to assist other learners with classwork.	1	2	3	4	5
My peers (classmates) give me advice to read, speak in class.	1	2	3	4	5

Appendix 9: Cultural differences subscale for Francophone Adolescent Learners (FAL)

Researcher:

School:

Teacher:

Date:

Gender:

Race/Ethnicity:

Residential area:

Instruction: Please read each item, and rate your agreement with each statement. The scale starts from 1 to 5. Likert scale where 1= very much agree, 2=agree, 3= Neutral, 4= disagree, 5= very much disagree. Please circle one of the numbers below:

1 2 3 4 5
 Very much agree agree Neutral Disagree Very much disagree

Example:

I know my culture when interacting with other learners (peers) at school.

Very much agree	1	Agree	2	Neutral	3	Disagree	4	Very much disagree	5
-----------------	---	-------	---	---------	---	----------	---	--------------------	---

SECTION 1 Knowledge of the cultures									
1.	My culture allows me to interact with other learners (peers) from different cultures at school.	1	2	3	4	5			
2.	I respect other learners (peers) from different cultures at school when I interact with them at school.	1	2	3	4	5			
3.	I know the rules of English language (vocabulary, grammar) when interacting with other learners (peers) in school.	1	2	3	4	5			
4.	I know the value of other cultures when interacting with other learners (peers) in school.	1	2	3	4	5			
5.	I know the cultural beliefs of other learners when interacting with the mat school.	1	2	3	4	5			
6.	I know the cultural rules of other learners when communicating at school.	1	2	3	4	5			
SECTION 2: Motivational cultures									
1.	I enjoy interacting with other learners (peers) from different cultures in school.	1	2	3	4	5			
2.	I am confident in interacting with other learners (peers) from unfamiliar cultures in school.	1	2	3	4	5			
3.	I enjoy living in an unfamiliar culture when interacting with other learners (peers) at school.	1	2	3	4	5			
4.	It is okay for me to have eye contact on others' faces when interacting at school.	1	2	3	4	5			
5.	It is acceptable to talk to other learners (peers) from different ethnic groups, cultures at school.	1	2	3	4	5			
6.	I interact only with my close friends from different cultures, ethnics groups at school.	1	2	3	4	5			
SECTION 3: Behavioural Cultures									
1.	I change my verbal accent when interacting with other learners (peers) from different cultures at school.	1	2	3	4	5			
2.	I change my verbal tone when interacting with other learners (peers) from different cultures at school.	1	2	3	4	5			

3. I use gestures differently to suit different cultural situations when interacting with other learners (peers) at school.	1	2	3	4	5
4. I use pause differently to suit different cultural situations when interacting with other learners (peers) at school.	1	2	3	4	5
5. I change my speaking faster tone in different cultural situations when interacting with other learners (peers) in school.	1	2	3	4	5
6. I change my speaking slower tone in different cultural situations when interacting with other learners (peers) in school.	1	2	3	4	5
7. I change my facial expressions when interacting with other learners (peers) in school.	1	2	3	4	5
SECTION 4: REACTIONS TO INTERACTIONS WITH PEERS					
Level of interaction with peers					
1. Other learners (peers) nod their head as Yes or No” towards me when interacting at school.	1	2	3	4	5
2. Other learners (peers) stand close to me when interacting at school.	1	2	3	4	5
Other learners (peers) approach me closely when interacting at school	1	2	3	4	5
3. Other learners (peers) imitate my talk when interacting at school.	1	2	3	4	5
4. Other learners (peers) approach with intention of fulfill when interacting in school.	1	2	3	4	5



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WESTERN CAPE **Appendix 10: Approved learner's consent form**

Project Title	Psychosocial factors that influence peer interactions among francophone adolescent learners in the selected high schools in the Western Cape, South Africa
Purpose of the Study	<ol style="list-style-type: none"> 1. The aim of this study is to determine the relationship between demographic detailed variables (gender, age, and grade level), psychosocial factors (psychological factors: emotion regulation, aggressiveness, sympathy, empathy; social support; and cultural differences), and peer interaction in the selected high schools in the Western Cape 2. To determine positive factors that can lead francophone adolescent learners to interact with peers at high schools in the Western Cape. 3. To determine negative factors that can prevent francophone adolescent learners from interacting with peers at high schools in the Western Cape. 4. To determine how francophone adolescent learners in high schools in Western Cape understand cultural differences.
Study procedures	Participants are required to participate in this study, which investigates the psychological factors, social support and cultural differences that influence peer interaction among francophone adolescent learners in high schools in their daily life. Participants fill out the questionnaires during 45 minutes.
Benefits	Participants helped us understand the different relationship between psychosocial factors (psychological factors, social support from teachers, parent and peers, cultural differences), peer interactions and demographic characteristics (gender, age, and grade level) among francophone adolescent learners in high schools in the western cape. Furthermore, participants helped us to determine positive and negative factors that affect peer interaction among francophone adolescent learners in high schools in the Western Cape.
Risks/Discomforts	This study did not expect to disadvantage participants in any way but if participants become upset or feel discomfort, the researcher can refer him/her to the health and preventative services for assistance.
Right to Refuse	Participation in this study was voluntary and participants can withdraw from this research before, during or after completing the questionnaire without any consequences.
Right to Privacy	This study may be published, but participant's identity will remain strictly confidential and will not be included in the publication.

For any additional enquiries, please feel free to contact the researcher, Mukuna Kananga Robert, email: robert_mukuna@yahoo.fr or 3212393@myuwc.ac.za and cell phone:+ (27) 81 045 14 73.

NB: For verification please feel free to contact my supervisor, **Professor Mokgadi Moletsane Kekae** at the University of the Western Cape (UWC). Contact details: **021 959 3590**.

Thank you.

Name of learner _____
 Signature of the learner _____
 Date _____/_____/_____



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WESTERN CAPE Appendix 11: Approved parental permission form

Project title	Psychosocial factors that influence peer interactions among francophone adolescent learners in the selected high schools in the Western Cape, South Africa
Reason to conduct this research study	This study was conducted by Mr Mukuna Kananga Robert from the University of the Western Cape (UWC, Student Number: 3212393). The researcher invited your child to participate in order to determine to dermine the relationship between demographic detailed variables (gender, age, and grade level), psychosocial factors (psychological factors: emotion regulation, aggressiveness, sympathy, empathy; social support; and cultural differences), and peer interaction in the selected high schools in the Western Cape Province in South Africa.
What will my child is asked to do?	If you allow your child to participate, she/he will be given 45 minutes to fill the questionnaires on psychological factors, social supports received from their teachers, parent, peers, cultural differences, and peer interactions at schools. A classroom was reserved for the purpose of completing this study. The researcher read all the questionnaires for them to make sure if all learners understand the questions (items) and instructions that they are answering for this research.
What are the benefits of this research?	This research is not designed to help you or your child personally, but the results may help us learn more about peer interactions among francophone adolescent learner in high schools in the Western Cape.
What is if I have question?	In fact, if you have any questions about the research study itself please contact Mr Mukuna Kananga Robert at 081 0451473 or robert_mukuna@yahoo.fr If you have questions about rights as a research participant or wish to report research related injury, please contact my supervisor office 021595 3590. This research has been reviewed according the University of the Western Cape procedures of research involving human subjects.

What are the studies Procedures?	Mothers, fathers or tutors will be asked to participate. Only those with signed consent forms will be included in the study. Parents will spend approximately 10 minutes completing a demographic questionnaire. Children whose parents have consented will also be asked to provide agreement and to complete a survey about possible sources of psychological factors, social support, and cultural differences. This survey should take no more than 45 minutes. Researchers will provide assistance for participants who present difficulty reading questionnaire items.
Benefits of this study	Completion of this study will help us to understand the feasibility and determine the reliability of psychosocial factors scale, and peer interaction scale for francophone adolescent learners in high school in the Western Cape.
Risks/Discomforts	There are no known risks associated with participation. Should you experience distress during participation in the study; the researcher can provide health and preventative services referrals to children and their families.
Right to Refuse	Participants may choose not to participate or to withdraw from the study at any time without penalty.
Right to Privacy	Results of the study may be published, but no names or identifying information will be included in the publication. Your information will be identified by code rather than name. Any records with your name or your child's name will be maintained in a locked file cabinet in the research store of Mukuna Kananga Robert at UWC. Participant identity will remain confidential unless disclosure is required by law.
Statement of age of subject and consent	Your signature indicates that You are at least 20 years of age The research has been explained to you, Your questions have been fully answered and You freely and individually choose to participate in this research study.
	My child can participate in the questionnaire study Yes <input type="checkbox"/> No <input type="checkbox"/>
	My child can participate in the audio-recorded interview Yes <input type="checkbox"/> No <input type="checkbox"/>

The study participant has indicated to me that he/she is unable to read. I certify that I have read this consent form to the participant and explained that by completing the signature line above, the participant has agreed to participate.

Name of parent _____

Parent signature _____

Name of the learner (Child) _____

Date ____/____/____

Thank you.

Mukuna Kananga Robert

Email: robert_mukuna@yahoo.fr or 3212393@myuwc.ac.za

Cell phone: (+27) 81 045 14 73

NB: For verification please feel free to contact my supervisor, **Professor Mokgadi Moletsane Kekae** at the University of the Western Cape (UWC). Contact details: **021 959 3590**.



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Appendix 12: Approved principal's consent form

As part of the fulfilment of the requirements of the Masters in Education Degree (M.Ed.) of the University of the Western Cape (UWC), I, MUKUNA KANANGA Robert, am required to conduct a research. I have chosen to research the following topic: *Psychosocial factors that influence peer interaction among francophone adolescent learners in the selected high schools in the Western Cape, South Africa*

I would like to be granted a permission to conduct research at your school with a selected number of grade 7 to 12 francophone adolescent learners. Participation will be voluntary. Participants will request to fill psychosocial factors scale (psychological factors, social support, and cultural differences) and peer interaction scale. They will be exposed to an interview face-to-face with the researcher. All responses will be handled with complete confidentiality and their identity and identity of your school will be protected at all times. Their participation in this project will not prejudice them in any way. They will be free to withdraw from participation at any stage should you feel that their rights are being infringed upon, or that they are being inconvenienced in any way by their participation.

If you agree to the conditions of participation in this study as specified above please sign this form in the space provided.

Signature of Participant _____
Signature of Researcher _____
Institution Affiliation _____
Contact Number _____

I thank you

Mukuna Kananga Robert
UWC Student number: 3212393

NB. For verification please feel free to contact my supervisor: Professor Moletsane Kekae in the Faculty of Educational Psychology at The University of the Western Cape. Contact details:
Landline: 021 959 2429.

Appendix 13: Psychological Factors for Francophone Adolescent Learner Scale (PFFALS)

School:, Grade Level: G....., Age:, Gender: Male or Female , Race/Ethnicity: Black or other, Residential Area:, Country Originated:, Date: / / 2016

Instruction: Please read each item or question, and rate how often each statement is understandable and adequate for you. The scale starts from 5 to 1. (5= totally agree, 4= agree, 3= Neutral, 2= Disagree, 1= Totally disagree)
Please circle one of the numbers below:

Example: I feel free to interact with other learners (peers) at school.

Totally agree	5	Agree	4	Neutral	3	Disagree	2	Totally disagree	1
----------------------	----------	--------------	----------	----------------	----------	-----------------	----------	-------------------------	----------

SECTION 1: Emotional Regulation					
1. I feel comfortable when interacting with other learners (peers) at school.	1	2	3	4	5
2. I feel angry with other learners (peers) when they criticize me at school.	1	2	3	4	5
3. I am not comfortable to interact with other learners (peers) at school.	1	2	3	4	5
4. I try to relax when interacting with other learners (peers) at school.	1	2	3	4	5
5. I feel free to ask for support/help/assistance when interacting with other learners (peers) at school.	1	2	3	4	5
6. It is difficult for me to ask for help from other learners (peers) when interacting at school.	1	2	3	4	5
SECTION 2: Aggressiveness					
1. I feel angry with other learners (peers) who roll their eyes at me in class.	1	2	3	4	5
2. I feel angry when other learners (peers) tell me that they slap at me.	1	2	3	4	5
3. I reprimand my peers when they tell me, they have slapped other learners.	1	2	3	4	5
4. Other learners (peers) tell to me they will hit me if I interact with them at school.	1	2	3	4	5
5. I am uncomfortable with other learners at school who reprimand other learners at school.	1	2	3	4	5
6. Other learners (peers) call me names when interacting at school.	1	2	3	4	5
7. Other learners (peers) tell me they will hurt me when interacting with them at school.	1	2	3	4	5
8. Other learners (peers) take things from me that I do not want to give to them in school.	1	2	3	4	5
SECTION 3: Empathy					
1. I feel accepted by other learners (peer) when interacting with them at school.	1	2	3	4	5
2. I feel compassion towards other learners (peers) when interacting with them at school.	1	2	3	4	5
3. I observe the peer's face to gain understanding while interacting with them at school.	1	2	3	4	5
4. I smile with other learners (peer) when speaking in class.	1	2	3	4	5
5. I join in task group with other learners (peers) in class.	1	2	3	4	5
SECTION 4: Sympathy					
1. I feel pity towards other learners (peers) when they are unhappy in school.	1	2	3	4	5
2. I feel sorry for other learners (peers) who are treated unfairly at school.	1	2	3	4	5
3. I feel concerned for other learners (peers) who feel sad when at school.	1	2	3	4	5
4. I feel bad for other learners (peers) who called me names when interacting at school.	1	2	3	4	5
5. I understand their (other learners, peers) happiness when interacting at school.	1	2	3	4	5

Appendix 14: Social Support for Francophone Adolescent Learners Scale (SSFALS)

School: Grade Level: G..., Age:, Gender: Male or Female , Race/Ethnicity: Black or other:....., Residential Area:, Country Originated:Date: / / 2016

Instruction: Please read each item or question, and rate how often each statement is understandable and adequate for you. The scale starts from 1 to 5. Likert scale (5=Very much agree, 4= Agree, 3= Neutral, 2= Disagree, 1= Very much disagree) Please circle one of the numbers below:

Example: My parent helps with homework at home.

Very much agree	5	Agree	4	Neutral	3	Disagree	2	Very much disagree	1
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Social Support from teacher, parent, and peers in schools

SECTION 1: SOCIAL SUPPORT FROM MY TEACHER					
Affective (Emotional) Support					
1. My teacher shows me friendly feelings when I want to talk in class.	1	2	3	4	5
2. My teacher usually says that he/she is proud of me when interacting with other learners (peers) in class.	1	2	3	4	5
3. My teacher understands me when I am frustrated in class.	1	2	3	4	5
4. My teacher listens to me when I am spelling English in class.	1	2	3	4	5
5. My teacher treats me equally as other learners (peers) in class.	1	2	3	4	5
6. My teacher makes sure I am accepted by other learners (peers) in class.	1	2	3	4	5
7. My teacher encourages me to be engaged in group task when interacting with other learners (peers) in class.	1	2	3	4	5
Informational Support					
1. My teacher advises me to interact with other learners (peers) in school.	1	2	3	4	5
2. My teacher helps me to develop my reading, and spelling skills in school.	1	2	3	4	5
3. My teacher helps me to solve problems by giving me information in class.	1	2	3	4	5
4. My teacher is willing to give me individual attention in class.	1	2	3	4	5
5. My teacher gives me guidance when I do not know what to do in class.	1	2	3	4	5
Instrumental Support					
1. My teacher allows me to speak with other learners (peers) to perform my interaction skills in class.	1	2	3	4	5
2. My teacher allows me to assist other learners with classwork.	1	2	3	4	5
3. My teacher gives me advice to read, speak in class.	1	2	3	4	5
SECTION 2: SOCIAL SUPPORT FROM MY PARENTS					
Affective (Emotional) Support					
1. My parents show to me friendly feelings when I want to talk at home.	1	2	3	4	5
2. My parents said that they are proud of me when interacting with other learners (peers).	1	2	3	4	5
3. My parent understands me when I am frustrated in class.	1	2	3	4	5
4. My parents listen to me when I am spelling English.	1	2	3	4	5
5. My parents treat me equally as other children.	1	2	3	4	5
6. My parents make sure I am accepted by other learners (peers) in class.	1	2	3	4	5
7. My parents encourage me to be engaged in group task when interacting with other learners (peers) in class.	1	2	3	4	5

Informational Support					
1. My parents advise me to interact with other learners (peers) in school.	1	2	3	4	5
2. My parents help me to develop my reading, and spelling skills in school.	1	2	3	4	5
3. My parents help me to solve problems by giving me school information.	1	2	3	4	5
4. My parents are willing to give me individual attention when I am doing my homework at home.	1	2	3	4	5
5. My parents give guidance when I do not know what to do at home.	1	2	3	4	5
Instrumental Support					
1. My parents allow me to speak with other learners (peers) when interacting at home.	1	2	3	4	5
2. My parents allow me to assist other learners with classwork.	1	2	3	4	5
3. My parents give me advice to read, speak in class.	1	2	3	4	5
SECTION 3: SOCIAL SUPPORT FROM MY PEERS (CLASSMATES)					
Affective (Emotional) Support					
1. My peers (classmates) show me friendly feelings when I want to talk in class.	1	2	3	4	5
2. My peers (classmates) said that he/she is proud of me when interacting with them in class.	1	2	3	4	5
3. My peers (classmates) understand me when I am frustrated in class.	1	2	3	4	5
4. My peers (classmates) listen to me when I am spelling English in class.	1	2	3	4	5
5. My peers (classmates) treat me equally as other learners in class.	1	2	3	4	5
6. My peers (classmates) make sure I am accepted by them in class.	1	2	3	4	5
7. My peers (classmates) encourage me to be engaged in group task when interacting with them in class.	1	2	3	4	5
Informational Support					
1. My peers (classmates) advise me to interact with other learners in school.	1	2	3	4	5
2. My peers (classmates) help me to develop my reading, and spelling skills in school.	1	2	3	4	5
3. My peers (classmates) help me to solve problems by giving me information in class.	1	2	3	4	5
4. My peers (classmates) are willing to give me individual attention in class.	1	2	3	4	5
5. My peers (classmates) give guidance when I do not know what to do in class.	1	2	3	4	5
Instrumental Support					
1. My peers (classmates) allow me to speak with other learners (peers) when interacting in class.	1	2	3	4	5
2. My peers (classmates) allow me to assist other learners with classwork.	1	2	3	4	5
3. My peers (classmates) give me advice to read and speak in class.	1	2	3	4	5

Appendix 15: Cultural Difference for Francophone Adolescent Learners Scale (CDFALS)

School:, Grade Level: G....., Age:, Gender: Male Female , Race/Ethnicity: Black or other, Residential area:, Country Originated: Date: / / 2016

Instruction: Please read each item, and rate your agreement with each statement. The scale starts from 5 to 1. Likert scale where 5= very much agree, 4=agree, 3= Neutral, 2= disagree, 1= very much disagree. Please circle one of the numbers below:

Example: I know my culture when interacting with other learners (peers) at school.

Very much agree	5	Agree	4	Neutral	3	Disagree	2	Very much disagree	1
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Cultural Difference Factors for Francophone Adolescent Learners

SECTION 1: Knowledge of the cultures									
1. My culture allows me to interact with other learners (peers) from different cultures at school.	1	2	3	4	5				
2. I respect other learners (peers) from different cultures at school when I interact with them at school.	1	2	3	4	5				
3. I know the rules of English language (vocabulary, grammar) when interacting with other learners (peers) in school.	1	2	3	4	5				
4. I know the value of other cultures when interacting with other learners (peers) in school.	1	2	3	4	5				
5. I know the cultural beliefs of other learners when interacting with them at school.	1	2	3	4	5				
6. I know the cultural rules of other learners when communicating at school.	1	2	3	4	5				
SECTION 2: Motivational cultures									
1. I enjoy interacting with other learners (peers) from different cultures in school.	1	2	3	4	5				
2. I am confident in interacting with other learners (peers) from unfamiliar cultures in school.	1	2	3	4	5				
3. I enjoy living in an unfamiliar culture when interacting with other learners (peers) at school.	1	2	3	4	5				
4. It is okay for me to have eye contact on others' faces when interacting at school.	1	2	3	4	5				
5. It is acceptable to talk to other learners (peers) from different ethnic groups, cultures at school.	1	2	3	4	5				
6. I interact only with my close friends from different cultures, ethnics groups at school.	1	2	3	4	5				
SECTION 3: Behavioural Cultures									
1. I change my verbal accent when interacting with other learners (peers) from different cultures at school.	1	2	3	4	5				
2. I change my verbal tone when interacting with other learners (peers) from different cultures at school.	1	2	3	4	5				
3. I use gestures differently to suit different cultural situations when interacting with other learners (peers) at school.	1	2	3	4	5				
4. I use pause differently to suit different cultural situations when interacting with other learners (peers) at school.	1	2	3	4	5				
5. I change my speaking faster tone in different cultural situations when interacting with other learners (peers) in school.	1	2	3	4	5				
6. I change my speaking slower tone in different cultural situations when interacting with other learners (peers) in school.	1	2	3	4	5				
7. I change my facial expressions when interacting with other learners (peers) in school.	1	2	3	4	5				

Appendix 16: Peer Interaction Scale

SECTION 1: Level of interaction with peers					
1. Other learners (peers) nod their heads as Yes or No” towards me when interacting at school.	1	2	3	4	5
2. Other learners (peers) stand close to me when interacting at school.	1	2	3	4	5
3. Other learners (peers) approach me closely when interacting at school	1	2	3	4	5
4. Other learners (peers) imitate my talk when interacting at school.	1	2	3	4	5
5. Other learners (peers) are friendly interacting with me in class.	1	2	3	4	5



Appendix 17: Interview guides for francophone adolescent learners in the high schools

Instrcution: I want to speak with you today because you have been involved participate in this project as part of your class, and I would like to learn about your experiences on peer interactions and psychosocial factors including psychological factors, social support, and cultural differnces. Is it okay with you if I audio record the interview?

A. Psychological factors

1. Emotional regulation

Do you feel comfortable when interacting with other learners (peers) at school?

Do you feel angry with other learners (peers) when they criticize me at school?

Are you not comfortable to interact with other learners (peers) at school?

Do you try to relax when interacting with other learners (peers) at school?

2. Aggressiveness

Do you feel angry with other learners (peers) who roll their eyes at me in class?

Is it other learners (peers) tell you they slap at you when interacting at school?

Do you reprimand your peers when they tell me they have slapped me?

3. Empathy (emotional support)

Do you feel accepted by other learners (peer) when interacting with them at school?

Do you feel compassion towards other learners (peers) when interacting with them at school?

Do you observe at peer's face to gain understanding while interacting with them at school?

4. Sympathy

Do you feel pity towards other learners (peers) when they are unhappy in school?

Do you feel sorry for other learners (peers) who are treated unfairly at school?

Do you feel concerned for other learners (peers) who feel sad when at school?

B. Cultural differences

1. Knowledge of the cultures

Tell about yourself

Do you know your culture in terms of interaction with other from different culture?

What is interacting with other learners mean in your culture?

Is your culture allowing you to interact with other learners (peers) from different cultures at school?

Do you respect the cultures of other learners (peers) at school when I interact with them at school?

Do you know about the rules of English language (vocabulary, grammar) when interacting with other learners (peers) in school?

2. Motivational cultures

Are you enjoy when you interacting with other learners (peers) from different cultures in school?

Are you confident in interacting with other learners (peers) from unfamiliar cultures in school?

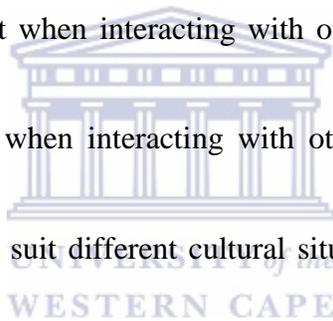
Do you enjoy living in an unfamiliar culture when interacting with other learners (peers) at school?

3. Behavioural Cultures

Do you change your verbal accent when interacting with other learners (peers) from different cultures at school?

Do you change your verbal tone when interacting with other learners (peers) from different cultures at school?

Do you use gestures differently to suit different cultural situations when interacting with other learners (peers) at school?



C. Peer interactions in school

1. Level of interaction with peers

How do you start when interacting with other learners at school?

Is it other learners (peers) nod their head as Yes or No” towards me when interacting at school?

Is it other learners (peers) stand close to me when interacting at school?

Is it other learners (peers) approach me closely when interacting at school?

Is it other learners (peers) imitate my talk when interacting at school?

Thank you for participating in the interview.

Appendix 18: Reliability of psychosocial factors (Tables: Item-Total Statistics)

Table Emotion regulation: Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1EmReg	13.371	9.158	.047	.025
Q2EmReg	13.065	8.167	.096	-.038 ^a
Q3EmReg	12.300	9.797	-.082	.160
Q4EmReg	13.141	8.489	.153	-.079 ^a
Q5EmReg	13.429	9.655	-.033	.104
Q6EmReg	12.135	9.242	-.018	.093

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

Table Aggressiveness: Item-total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1Aggress	21.935	36.369	.350	.715
Q2Aggress	22.047	35.394	.389	.707
Q3Aggress	21.718	37.506	.331	.717
Q4Aggress	21.235	34.359	.495	.685
Q5 Aggress	21.747	39.160	.217	.738
Q6Aggress	21.494	33.553	.510	.681
Q7Aggress	21.324	32.433	.604	.661
Q8Aggress	20.988	34.627	.464	.691

Table Empathy: Item-total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1Emp	8.806	12.288	.530	.643
Q2Emp	8.518	13.778	.440	.680
Q3Emp	8.571	13.939	.448	.678
Q4Emp	8.906	13.423	.394	.702
Q5Emp	8.941	12.659	.564	.631

Table Symapthy: Item-total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
Q1Symp	8.965	13.241	.393	.634
Q2Symp	9.365	12.837	.540	.569
Q3Symp	9.076	13.041	.476	.596
Q4Symp	8.447	13.858	.305	.676
Q5Symp	9.065	13.635	.429	.617

Table Affective social support from techers: Item-total-statics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
Q1AfST	22.559	22.710	.526	.720
Q2AfST	22.976	23.337	.469	.733
Q3AfST	22.988	22.663	.514	.723
Q4AfST	22.459	25.066	.405	.746
Q5AfST	22.394	24.110	.440	.739
Q6AfST	22.559	22.899	.572	.711
Q7AfST	22.606	24.583	.423	.742

Table Informational social support from teachers: Item-total-statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
Q1InfoST	9.09	13.927	.498	.742
Q2InfoST	9.02	13.455	.538	.729
Q3InfoST	9.17	13.113	.643	.695
Q4InfoST	8.96	12.998	.542	.728
Q5InfoST	9.15	13.558	.492	.745

Table Instrumental social support from teachers: Item-total-statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
Q1InstST	7.39	4.109	.406	.519
Q2InstST	7.45	3.847	.462	.434
Q3InstST	7.11	4.490	.378	.557

Table Affective social support from parents: Item-Total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
Q1AfSP	12.54	26.865	.611	.821
Q2AfSP	12.39	29.234	.491	.838
Q3AfSP	12.21	26.937	.566	.828
Q4AfSP	12.32	26.017	.648	.815
Q5AfSP	12.52	26.263	.672	.811
Q6AfSP	12.46	28.025	.599	.823
Q7AfSP	12.31	27.435	.611	.821

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Table informational social support from parents: item-Total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
Q1InfoSP	8.38	15.195	.565	.817
Q2InfoSP	8.52	14.725	.676	.783
Q3InfoSP	8.50	14.464	.721	.770
Q4InfoSP	8.52	14.357	.680	.782
Q5InforSP	8.72	17.127	.513	.827

Table instrumental social support from parents: Item-total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1InstST	4.61	4.109	.406	.519
Q2InstST	4.55	3.847	.462	.434
Q3InstST	4.89	4.490	.378	.557

Table Affective social support from peers: Item-total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1AfSCI	15.429	34.211	.639	.843
Q2AfSCI	15.035	33.679	.717	.832
Q3AfSCI	15.076	34.047	.696	.835
Q4AfSCI	15.418	35.452	.590	.850
Q5AfSC	15.406	36.030	.570	.852
Q6AfSC	15.194	35.341	.576	.852
Q7AfSCI	15.382	34.841	.646	.842

Table Affective social support from peers: Item-total statics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1AfSCI	15.429	34.211	.639	.843
Q2AfSCI	15.035	33.679	.717	.832
Q3AfSCI	15.076	34.047	.696	.835
Q4AfSCI	15.418	35.452	.590	.850
Q5AfSC	15.406	36.030	.570	.852
Q6AfSC	15.194	35.341	.576	.852
Q7AfSCI	15.382	34.841	.646	.842

Table Informational support from peers: Item-total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1InstSCI	4.82	4.631	.594	.671
Q2InstSCI	4.75	4.400	.603	.659
Q3InstSC	4.71	4.434	.569	.700

Table Knowledge of culture: Item total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
Q1KwdgCult	10.476	19.825	.636	.820
Q2KwdgCult	10.694	19.906	.705	.805
Q3KwdgCult	10.500	21.293	.650	.817
Q4KwdgCult	10.488	20.595	.735	.802
Q5KwdgCult	10.259	21.731	.524	.840
Q6KwdgCult	10.229	21.846	.535	.838

Table Motivational of cultures: Item total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
Q1MtvCult	12.218	15.769	.425	.649
Q2MtvCul	11.888	16.017	.383	.661
Q3MtvCul	11.759	15.214	.441	.643
Q4MtvCul	11.688	14.251	.467	.634
Q5MtvCul	12.029	14.632	.537	.611
Q6MtvCul	11.624	16.414	.282	.695

Table Behavioural cultures: Item total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
Q1BiaCul	16.24	26.456	.594	.805
Q2BiaCul	16.25	24.829	.692	.788
Q3BiaCul	16.08	27.456	.542	.813
Q4BiaCul	16.31	27.281	.557	.811
Q5BiaCul	16.13	27.143	.532	.815
Q6BiaCul	16.19	25.708	.648	.796
Q7BiaCul	16.23	27.255	.482	.824

Table Peer interaction: Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1LevIPs	9.88	12.175	.481	.719
Q2LevIPs	10.02	11.615	.556	.690
Q3LevIPs	9.89	11.650	.626	.665
Q4LevIPs	9.83	11.941	.548	.693
Q5levIPs	10.26	13.545	.372	.753