

**UNIVERSITY OF THE WESTERN CAPE**  
**Faculty of Community and Health Sciences**  
**RESEARCH PROJECT**

**Title: The Impact of Self-Esteem on the Working Alliance between  
Students and Supervisors and the Perception of Thesis Work as Stressful**

Student Name: Jean-Pierre Senekal

Student Number: 3268664

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Supervisor: Dr M.R. Smith

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## DECLARATION

I declare that the mini-thesis entitled, *The Impact of Self-Esteem on the Working Alliance between Students and Supervisors and the Perception of Thesis Work as Stressful* is my own work. It has not been submitted for any degree or examination at any other university, and that all the sources I have used or quoted have been indicated and acknowledged by complete references.

Jean-Pierre Senekal

Signed.....



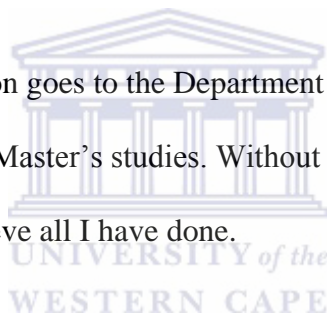
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### **Acknowledgments:**

I am thankful for many people, without whom I would not have been able to complete this thesis. I appreciate you all.

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## Abstract

The aim of this study was to establish if there is a relationship between Self-Esteem, Network Orientation and the student-supervisor working alliance and if that working alliance in turn influences the perception of thesis work as being stressful. Student throughput and retention at universities is a worldwide problem creating issues for public reputation and financial viability. Successful completion of a thesis is an important part of a Masters degree, but has been identified as the most stressful element of the course. Understanding of the student-supervisor working-alliance may shed some light on ways in which universities may increase throughput and retention. Permission to conduct the study and ethics clearance was obtained from the Senate Research Committee of the University of the Western Cape and all relevant ethics principles were adhered to. An incentivized, online survey using established measures of Self-Esteem (Rosenberg's Self Esteem Scale), Network Orientation (Network Orientation Scale), Working Alliance (The Working Alliance Inventory) and Perceived stress (The - Perceived Stress Scale) was conducted with a sample of 73 masters-level students in the Community and Health Sciences Faculty of a Historically Disadvantaged University. The survey had a response rate of 24.5% (n=83/ 338) after 4 follow-up mailings. Hierarchical regression analysis was used to establish the predictive relationships between these variables. Self-esteem and Network Orientation were found to be reciprocally determining; and both could significantly predict working alliance as independent criterion variables. When combined, Self-Esteem dominated Network Orientation as a significant predictor of Working Alliance controlling for Race. The findings indicated that the perception of thesis work as stressful was found to be a function of Network Orientation controlling for Race, Working Alliance and Self-Esteem. More notably Network Orientation only had an influence on Perceived stress in the presence of Working Alliance that suggests a mediative relationship.

## **1. Introduction**

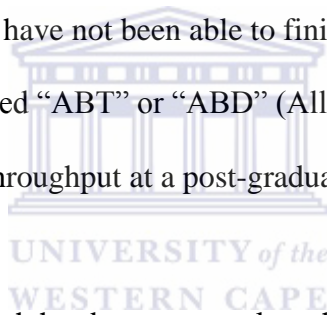
### **1.1. Background**

Throughput (that is getting students to graduate) and retention (keeping students from dropping out) have long been issues in higher education all over the world (Braxton, Hirschy & McClendon, 2004; Gurr, 2001). Student attrition (students leaving and not returning) threatens not only the 'reputational benefits' the university gains from students who complete successfully (Wright, 2003), but also the economic stability garnered from a consistent student base (Yorke & Longden, 2004). Research into the factors that facilitate or hinder student retention and throughput has been conducted with the following foci: academic challenges (Pillay & Kritzinger, 2007), academic skills and the preparedness of the supervisor (Lategan, 2008), intra-psychic or psychological factors (Dickson, Moberly, Marshall, & Reilly, 2011; Muslin & Val, 1980) and cultural differences (Nilsson, 2007). The body of research on retention and throughput has further distinguished between post-graduate or graduate (Green, 2011) and undergraduate students (Devenport & Lane, 2006). At a postgraduate level research has focused on either clinical supervision or training (Ladany, Yoko & Mehr, 2013) and thesis or dissertation requirements (Devenport & Lane, 2006; Pillay & Kritzinger, 2007).

A substantial part of the literature has focused on clinical training and supervision, with a particular emphasis on the working relationship between students and supervisors. These findings indicate that the quality of the relationship, perceived or real, was a significant predictor of success, submission of completed theses and perceptions of the process as stressful (Grant, 2003; Berkel, Constantine & Olson, 2007, Wadesango & Machingambi, 2011; Munder, Wilmers, Leonhart, Linster & Barth, 2010). This research has also examined the impact of personality or psychological factors such as, self-esteem and locus of control on the working alliance between students and supervisors (Rahman & Baharudin, 2009). The

careful examination of the supervisory process, such as the study by DeTrude (2001) reported that supervisory quality and components of supervision have significantly impacted theory and practice resulting in improved retention and throughput.

The body of literature on research requirements primarily focuses on the “self-help” aspect of post-graduate studies, such as Johann Mouton’s *How to succeed in your Master’s and Doctoral Studies* (Mouton, 2001). There is a much smaller body of literature comprised of empirical studies in published articles. An important fact that has been identified in both bodies of literature is that the thesis or research component is a stressful experience (Devenport & Lane, 2006). In this regard, post graduate students have been able to complete all other course requirements, but have not been able to finish their thesis. This has sometimes been colloquially termed “ABT” or “ABD” (All But Thesis/ Dissertation) and results in a loss of retention and throughput at a post-graduate level.



The current body of research has begun to explore the effect of psychological constructs on the supervision process (Smith, 2004; Dickson, Moberly, Marshall & Reilly, 2011), obstacles to completion (Pillay & Kritzing, 2007; Smith, 2000) and the working relationship between students and their supervisors (Smith, 2004; Sterner, 2009). Similar to the research on clinical supervision, the findings in this area indicate that the quality of the supervisory relationship, perceived or real, was a significant predictor of success and perceptions of the process as stressful and that individual or intra-psychic factors impact the relationship significantly (Smith, 2004). Wright (2003) further emphasised this point by arguing that the process of a PhD (a research and supervision-driven process) reflects the psychological, relational stages of dependence towards independence such as what one might expect to find in any other relationship. Much of the current research has been conducted abroad and would suggest that replication of studies with local samples would be important.



## 1.2. Problem Statement

The thesis component of post-graduate work is an independent endeavour and is experienced as highly stressful for students. Although supervision is provided by universities, there is tremendous pressure placed on the student to manage this task independently. Failure to complete this requirement results in compromised retention and throughput, and has numerous implications at varying levels. In health sciences in particular, the implications included: failure to register as a health professional, negative attitudes to research and publication, loss of income for universities and reputational harm (Yorke & Longden, 2004).

As previously mentioned, the findings in research including both clinical and research supervision identified the supervisory relationship as an important factor. The challenge of relationships is that they are dynamic and are contributed to by both parties (Ladany, Ellis, & Friedlander, 1999). Individual or intra-psychic factors such as self-esteem, attachment style etc. should be explored more carefully in terms of their impact on the working alliance and perceptions of postgraduate studies as stressful. Variations in self-esteem can adversely impact a student's ability to manage this process adequately. Therefore the present study examined the impact of self-esteem and the proclivity of students to access the resources that are available to them (Network Orientation) on the working alliance between students and thesis supervisors, and the perception of thesis writing as stressful in a sample of postgraduate students registered in the Community and Health Sciences Faculty of the identified university. While this study is not able to address the vast body of work required to understand this relationship more fully (focusing on only two intra-psychic constructs– Self-Esteem and Network Orientation), its aim is to contribute to the process of deepening the understanding of research capacitation and encouraging further research in this area.

## 2. Literature review

Student retention and attrition are particularly problematic in South Africa where it is estimated that the throughput rate for PhD level students is approximately one eighth of that found in European universities (Dell, 2010). Completion or graduation rates form a large part of the standing and status of a university, performance scale ratings and motivation for funding (Wright, 2003). This makes it increasingly important to examine and understand the factors affecting retention and throughput for universities. On a broader scale, lack of throughput adversely affects the professional reality as a) the country becomes less able to compete on a global scale in affected fields and b) the high demand for professionally qualified South Africans internationally, means those who do graduate are often caught up in the 'brain drain' (Council on Higher Education, 2009). The problems of non-completion are expounded by a phenomenon sometimes called, "The Pile-Up Effect"; where students extend the expected time to complete their research placing strain on university resources and require supervisors to divide their time between more and more supervisees (Council on Higher Education, 2009).

The problems of retention and attrition have, in part, been addressed by taking apart 1) the thesis endeavour itself and 2) the supervision process. It is the supervision process which the present study examines further. There has generally been consensus among scholars that supervision comprises two processes, namely; an Educative process and an Administrative process (Smith, 2009). However there is very little scholarly or empirical recognition that this is also a *psychological* process (Smith, Personal Communication, 2012; Wright, 2003). Like any relationship, the supervisory process is then subject to the impact of psychological constructs; as has already been the focus of research (Dickson, Moberly, Marshall & Reilly, 2011; Ladany, Yoko & Mehr, 2013; Armstrong, Allison & Hayes, 1997),

as well as demographic variables such as gender (Grant, 2003; Grace & Gouthro, 2000; Lee, 2008), race (Schroeder, Andrews & Hindes, 2009; Maton et al, 2011), religion (Berkel, Constantine & Olson, 2007) and sexual orientation (Messinger, 2007). The focus of most research in this area has been on clinical training (Most, Kazmer & Marty, 2013; Dickson, Moberly, Marshall & Reilly, 2011; Pillay & Kritzinger, 2007; Sterner, 2009) and investigation into research supervision inclusive of other fields of study has been lacking.

In order to gain a deeper understanding of the supervisory relationship, the impact of psychological constructs must be investigated. For example, Dickson, Moberly, Marshall and Reilly (2011) looked at how attachment style related to the Working Alliance. While any construct might be used (mindfulness, intelligence, attachment style, locus of control etc.) to ascertain its effects on the working alliance, self-esteem has been chosen for this study as it is “related to personal beliefs about skills, abilities, social relationships, and future outcomes” (Heatherton & Wyland, 2003). The self-evaluation of those constructs, by students, is of particular relevance to the supervisory relationship (Sterner, 2009) and also to completion of the thesis as this study aimed to explore. It was decided to include Network Orientation into the study as the proclivity of a student to access resources or seek help has been shown to mitigate the positive effects of self-esteem outlined above (Vaux, Burda & Stewart, 1994) and so becomes particularly relevant to the present study.

The impact of the Working Alliance is far reaching (Armstrong, Allison & Hayes, 1997) and has implications not only for thesis completion, but also clinical work undertaken by the student. Sterner (2009) found that satisfaction with the supervisory relationship lead to a greater satisfaction in clinical work. In addition those students who experienced the working alliance as strong and supportive reportedly experienced less work-related stress and

burnout (Sterner, 2009; Lategan, 2008; Manathunga, 2005). Similar conclusions may be drawn about research supervision and the thesis endeavour (Gurr, 2001).

Smith (2004) reported that the Working Alliance between students and research supervisors was a proxy for Attachment style. In other words, the Working Alliance was a manifestation of the quality of relationships and inherent coping styles (attachment). Smith (2004) argued that the advisory relationship is in essence a *relationship* and therefore is subject to any psychological construct that influences relationships. He further identified research into the supervisory Working Alliance as a focus for future studies.

Feelings of isolation with regard to the thesis endeavour have been identified as particularly problematic for students involved in postgraduate research (Wright, 2003; Grix, 2010). This is noted to be particularly true for student groups dominated by women, such as those fields studied in the Social Sciences (Conrad & Phillips, 1995). It is partly for this reason that the supervisory relationship is so important, as supervisors are uniquely placed not only to form a warm, professional relationship, but also to induct students into the broader academic community (Johnston, 1995). The importance of personal connection is furthered by Grant (2003) who argued that as supervision is usually held in individual or 'one-on-one' sessions, it takes on an intimate and intense nature that is different from any other teaching or training relationship. Students require more than just a transference of academic knowledge, but also need emotional support (Manathunga, 2005). To this end, Grant (2003) asserted that in addition to academic knowledge, supervisors must have the ability to relate and utilise therapeutic skills. Feeling supported and attended to in a therapeutic manner by supervisors repeatedly come up in the literature as elements which are central to a positive experience of the thesis endeavour by students (Manathunga, 2005; Wisker, Robinson & Shacham, 2007; Flynn, Sánchez & Harper, 2011; Kiguwa & Langa,

2009). Conversely, supervision that is perceived by the student to be of a poor quality has been consistently shown to have a negative effect on the perception of thesis work and completion rates (Wisker, Robinson & Shacham, 2007; Manathunga, 2005).

In a South African study, Pillay and Kritzinger (2007) found that of practicing psychologists who have been working for between 5 to 10 years, 33.6% felt that their master's thesis supervision was inadequate in helping them meet the academic demands of thesis writing. Pillay & Kritzinger (2007) went on to say that just over a quarter of participants in the study identified supervision issues as a determining factor in the non-completion of their thesis which is supported by similar research findings (Gurr, 2001; Armstrong, Allison & Hayes, 1997). In an American study of graduate psychology students, Maton et al (2011) found that a mentoring relationship was the strongest predictor of satisfaction in their studies among minority groups. By extension, the South African context of historical and present racial inequality may also play a significant role in the supervisory relationship

## **2.1. Stress**

Mental health issues, particularly the greater amount of stress and a lack of self-care have been identified as major problems for postgraduate students (Stanley & Manthorpe, 2001; Shapiro, Brown & Biegel, 2007). There may be some expectation from 'outsiders' that at a post-graduate level, students should by now be accustomed to the rigours of academic study and therefore experience less stress. However, it is the thesis endeavour itself that is experienced as most stressful and research has found that the level of stress does not fluctuate without change of the stressor or external factors (Devenport & Lane, 2006). Devenport and Lane (2006) went on to describe that an increase of stress is associated with a change in either: a) the stressor, b) personal factors or c) situational factors. It is submitted that

ineffective supervision, such as a lack of basic counselling skills by the supervisor, lack of interpersonal attentiveness and a lack of a task-oriented structure (Ladany, Yoko & Mehr, 2013) could act as a situational factor that serves to increase the perception of thesis work as stressful. It has also been found that stress can play an interactional role with self-esteem where the experience of stress has been found to correlate with low self-esteem (Kreger, 1995). A large academic workload is significantly associated with higher levels of perceived stress (Ford, Olotu, Thach, Roberts & Davis, 2014). High levels of academic stress have been seen to be predictive of chronic stress, which is a major health concern (Pozos-Radillo, Preciado-Serrano, Acosta-Fernández, Aguilera-Velasco & Delgado-García, 2014).

## 2.2. Self-Esteem

Lane, Lane and Kyprianou (2004) found that self-efficacy (the belief that one has the power to effect change) correlates significantly with self-esteem; furthermore, self-efficacy is directly related to how students perform and achieve. Another study has explored how self-esteem, self-efficacy, neuroticism and locus of control may all be indicators of a single, higher order construct (Judge, Erez, Bono & Thoresen, 2002). It then becomes clear that self-esteem, at the very least, has an effect on self-efficacy which in turn will affect the performance of students.

There is a need for supervisors to immerse themselves in the supervision process and in particular to provide an environment that encourages and enhances the self-esteem of students (Muslin & Val, 1980). This is an important element to consider as there is a view that self-esteem has an impact on learning and the development of clinical skills. Green (2011) elaborated on this further by explaining the model set out by Trautwein et al (2006) that describes how from a *top-down* perspective, self-esteem impacts on the academic self-concept, which in turn affects academic achievement. Conversely, if the model is looked at

from a *bottom-up* view, academic achievement impacts on one's academic self-concept which then has implications for self-esteem (Green, 2011). Self-esteem and the sequelae of a poor self-esteem is a result of a confluence of factors such as depression (Sowislo, Orth & Meier, 2014); where you live (Roemer & Walsh, 2014); early parenting style (Betts, Trueman, Chiverton, Stanbridge & Stephens, 2013) and including, but not limited to Network Orientation (Sommer & Dumont, 2011). Below is a brief exploration of Network Orientation.

### **2.3. Network Orientation**

Network Orientation was formally defined by Tolsdorf (1976) as “a set of beliefs, attitudes and expectations concerning the potential usefulness of [an individual] in helping him cope with life's problems.” Other authors have since increased our understanding of Network Orientation to “a psychological orientation to problem-solving through the mobilization of ties and networks, or help-seeking behaviour” (Montero-Sieburth & Villaruel, 2003). The reference to *help-seeking* behaviour is perhaps a good colloquial understanding of Network Orientation.

In the early to mid-nineties Wallace and Vaux (1993) established that Network Orientation is closely connected to early attachment styles. More recently the impact of attachment on working alliance has been underscored by Dickson, Moberly, Marshall and Reilly (2011) who found a relationship between “parental indifference, compulsive self-reliance, insecure supervisor attachment style, and lower ratings of the working alliance”. While further exploration of early attachment falls beyond the scope of the present study, it is useful to note that other studies have suggested that insecure attachment styles lead to dysfunctional beliefs which in turn predispose to poor or low self-esteem (e.g. Roberts, Gotlib & Kassel, 1996; Huis in t'Veld, Vingerhoets & Denollet, 2011; Erol & Orth, 2013). Thus any positive effects of self-esteem is mitigated by the extent to which one is

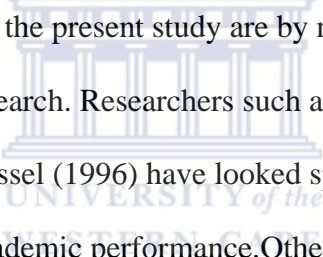
likely to seek out the help of others or to access existing support structures (Vaux, Burda & Stewart, 1994). Other early research in help-seeking behaviour asserted that self-esteem and help-seeking behaviour (Network Orientation) are closely linked particularly when the task at hand is perceived to be “ego-central” such as one might experience a dissertation to be (Nadler, 1987). Vaux, Burda and Stewart (1986) cautioned that a greater willingness to use available support should not be assumed to mean that everyone has access to the same amount of support. Early research into Network Orientation proposed that those who have access to support structures, but who do not make use of them should be the focus of interventions (Vaux, Burda, & Stewart, 1986). This has been emphasised in more recent research around the reasons for a lack of help-seeking behaviour, particularly around physical and mental health (Andersson, et al., 2013; Hunt & Eisenberg, 2010; Klineberg, Biddle, Donovan, & Gunnell, 2011).

#### **2.4. Working Alliance**

The current body of literature indicates that the student’s appraisal of the Working Alliance has a significant impact on their experience of clinical training (Ladany, Ellis, & Friedlander, 1999). Furthermore, it has been found that the Working Alliance is impacted significantly by personal constructs that underscore supervision as a dynamic relationship such as, a British study exploring the link between attachment style and working alliance (Dickson, Moberly, Marshall & Reilly, 2011). Therefore, further research illuminating the understanding of the impact Working Alliance has on the supervisory relationship and successful completion of thesis work is an important area of research. A large number of these studies have been conducted abroad with international samples and there is a dearth of recent, local studies such as the one by Connolly and Cain (2010) which illustrates a clear need for these studies to be replicated locally. This study focused on a ‘snapshot’ view of the working alliance and in particular how student’s self-esteem impacts on this relationship.



However, there is some research that points to self-disclosure, on the part of the supervisor, as a helpful means of increasing the working alliance with the student (Davidson, 2011). Arguments for or against self-disclosure notwithstanding, it may be suggested that students who have been taken into their supervisors' confidence (through self-disclosure) may feel more valued and important. This would allow them to subjectively experience a greater amount of self-esteem in relation to their supervisor. In a study by Redko, Rapp, Elms, Snyder and Carlson (2007) looked at the therapeutic Working Alliance and concluded that a positive working alliance may in fact assist in building up the self-esteem of clients. It may be that a similar effect takes place in the research supervisory relationship as well.



The constructs explored in the present study are by no means an exhaustive list of what is currently happening in research. Researchers such as Lane, Lane and Kyprianou, (2004) and Roberts, Gotlib and Kassel (1996) have looked specifically at how self-esteem and self-efficacy have impacted on academic performance. Others have explored how parental rearing styles or attachment styles have an impact on young adulthood (Betts, Trueman, Chiverton, Stanbridge & Stephens, 2013; Dickson, Moberly, Marshall & Reilly, 2011). Other authors have explored throughput and retention in detail, examining many facets of this problem that universities face (Yorke & Longden, 2004).

What has become important for researchers to explore then is the process of supervision (Wright, 2003) as it is core to the completion of the thesis endeavour. As mentioned previously, supervision is a dynamic and relationship based process and thus subject to psychological, relational constructs. It would be extremely difficult to examine all intra-psychic constructs in one study as it would be incredibly vast. However, the exploration of self-esteem and Network Orientation is beneficial as they have been shown to

be significantly connected in the literature (Roberts, Gotlib & Kassel, 1996; Huis in t'Veld, Vingerhoets & Denollet, 2011; Erol & Orth, 2013) while knowing also that Working Alliance is impacted by personal constructs (Ladany, Ellis & Friedlander, 1999; Dickson, Moberly, Marshall & Reilly, 2011).

### **3. Methodology**

#### **3.1. Aims of the study**

This study aimed to assess the impact Self-Esteem has on the Working Alliance between students and their supervisors, how likely they are to access support (Network Orientation) and the perception of thesis work as stressful.

#### **3.2. Research Questions**

1. What were the associative relationships between Demographic Variables and Network Orientation, Self-Esteem, Working Alliance, and Perception of Stress?
2. What is the predictive relationship between Working Alliance, Self-Esteem, Network Orientation and Perception of Stress?

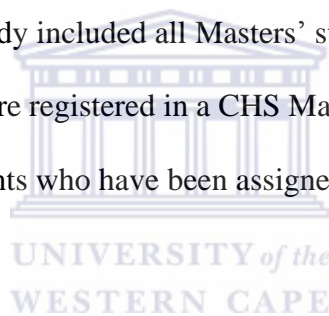
#### **3.3 Research setting**

The research setting was centred on the Faculty of Community and Health Sciences (CHS) of a Historically Disadvantaged University in the Western Cape. The Faculty is divided into the Departments of Dietetics, Occupational Therapy, Physiotherapy, Psychology, Social Work and, Sport Recreation and Exercise Science (SRES). The programmes offered in the CHS faculty are primarily practicum oriented and Postgraduate research often occurs in the context of a structured program, such as the Masters in Psychology that includes an intensive course load and a thesis component. The content of these professional training programs are disproportionately favoured to the development of clinical skills and

competencies, and have less input in respect of research methods than other faculties. CHS was thus chosen as the research setting because of the difference in the structure of the programmes when compared to other faculties. The social sciences have also been identified as a field where thesis completion is particularly problematic (Pillay & Kritzing, 2007). Black and coloured students and women have been identified as groups that are particularly at risk for dropping out (De La Rey, 2006). As the identified university has predominantly a black and coloured student base and the social sciences are generally dominated by women, it becomes clear that this is an important context for this research.

### **3.4. Participants**

The population for the study included all Masters' students who met the following inclusion criteria: 1) Students who are registered in a CHS Masters course for the 2013 academic year, 2) Masters' students who have been assigned a thesis supervisor and had at least one supervision meeting.



### **3.5. Sampling**

The list of registered Masters' students who met the inclusion criteria totalled 338 students who formed the sampling frame for the study. The study utilised a probability sample since every eligible masters student in the CHS faculty had an equal chance to participate in the study (Bryman, 2012). In other words every student included in the sampling frame was sent an invitation to participate in the study. The final sample consisted of those students who elected to participate. It was anticipated that the process of deciding to participate would be random which therefore meant that the study would incorporate a simple random sample (Fowler, 2009).

The initial response to the invitation to participate was 83 students that constituted 24.5% of the sampling frame i.e. list of eligible candidates. Of these responses 10 responses were incomplete resulting in a final sample size of 73 students. A more thorough account of attempts to increase sample size and response rate is discussed under “Design” (3.6) reporting on the process of the study.

### **3.6. Design**

This study made use of an internet survey as the design. Survey methodology was appropriate for the present study since it enabled the gathering of information about attitudes and perceptions on a particular topic (Colman, 2009). Mixed views exist on the efficacy of internet surveys with regard to response rates. Nulty (2008) reported that online surveys present as problematic because the response rate is much lower than its’ pen-and-paper counterparts. On the other hand, studies looking at response rates have found that for online surveys a response rate between 20 – 47% can be expected with an average of 33% which is consistent with other modes of administration (Deutskens, Ruyter, Wetzels, & Oosterveld, 2004; Nulty, 2008). Nulty (2008) asserted that the expected range of response rates for online surveys was between 20% and 47%. Thus the final sample in the present study fell within the expected range. In order to increase the response rate for this study, on completion of this survey students were able to gain access to a ‘drop-box’ of thesis writing resources and were entered into a lottery for a book voucher valued at R250.00.

The survey in the present study was cross-sectional in nature in that a “snapshot” of the perceptions of participants was taken (Bless, Higson-Smith & Kagee, 2006). A challenge in cross-sectional surveys would be that temporal order cannot be established unless the criteria for causation can be established empirically or inferred theoretically. In this instance Self-Esteem and Network Orientation, as psychological constructs, emerge developmentally before postgraduate studies are undertaken and there could be a Working Alliance with a

supervisor or perceptions about university requirements. Thus temporal order could be inferred theoretically.

The second criterion is that a linear relationship (Stevens, 2009) exists between the identified variables. This relationship has been hypothesized and will be tested empirically in the present study to satisfy the second criterion.

The third criterion is the control of rival hypotheses (Bless, Higson-Smith & Kagee, 2006). The present study will test the hypothesized relationship in the context of a regression model and will make inferences relative to the limits of that model. Thus the study does not intend to establish a causal relationship, but to demonstrate that Working Alliance is a function of Self-Esteem and Network Orientation that in turn impacts the student's perceptions of the process. The data from a cross-sectional survey, where two of the three criteria have been satisfied as outlined above, is appropriate and the determining factor will be whether the data generated can in fact support the analysis proposed and hypothesis testing (Fowler, 2009). Lastly surveys can be administered easily and would facilitate ease of administration for the researcher, as well as ease of completion for participants (Fowler, 2009; Walker & Maddan, 2013).

### **3.7. Instruments**

This study included a total of five questionnaires for data collection with each measuring one of the variables identified in the study. Below is a brief outline of each instrument:

3.7.1 Demographic questionnaire: This self-constructed questionnaire asked participants to report on demographic information such as age, gender and race. Questions

specific to academic life, such as being a full-time or part-time student, number of years registered, department in CHS, and progress of thesis were also asked. The initial version of the questionnaire was developed and reviewed in consultation with the supervisor. Items were revised following this consultation and the final version of the questionnaire is reflected in Appendix A

3.7.2. The Rosenberg Self-Esteem Scale (SES) (Rosenberg, 1965): The SES is a Likert type scale with 10 items rated from *strongly-agree* to *strongly-disagree* that measure global self-worth by measuring feelings about the self(Appendix B). The SES has been used widely and was generally well-received as it is straightforward and appears to be reliable across a wide variety of countries and languages, including South Africa, with good psychometric properties reported including internal consistency coefficient ranging from 0.6 – 0.89 (Blascovich & Tomaka, 1991; Schmitt & Allik, 2005)

3.7.3. The Working Alliance Inventory (WAI) is a 30 item questionnaire, with a 5-point Likert scale which rates items from *never* to *always* (Appendix C).The WAI has shown good psychometric properties with South African samples (Smith, 2004) and has enjoyed widespread acceptance for its reliability (Lowest Cronbach's coefficient = 0.675) and validity in its full, short and revised versions (Horvath, 1994). The WAI was originally designed to assess therapeutic relationships and was adapted, with permission, for research supervision by Smith (2004).

3.7.4. The Perception of Stress Scale (POS) (Cohen, Kamarch & Mermelstein, 1983) is a 10- item Likert scale questionnaire, with each item rated from 0 (Never) to 4 (Very Often) (Appendix D) and gives an indication of how one perceives events in one's life to be stressful. Items 4, 5, 7 and 8 were reverse scored (0=4, 1=3, 2=2, 3=1 & 4=0) and all scores are then totalled and higher scores are equated with higher levels of perceived stress (Cohen,

Kamarch & Mermelstein, 1983). Its use in a broad spectrum of professions and contexts, such as studies conducted in the US, South Africa, Greece, France and China (Lesage, Berjot & Deschamps, 2012; Androu et al., 2011; Wang, et al., 2011) have shown satisfactory validity and reliability (Internal consistency scores ranged from 0.5 – 0.89) in a variety of contexts. Given the chosen population of post-graduate level students with relatively high intelligence in a multi-cultural tertiary institution, cultural relevance and language are not anticipated to be issues.

3.7.5. The Network Orientation Scale (NOS) (Vaux, Burda & Stewart 1994). This instrument measures the degree to which a person will seek help from others. The NOS is a 20-item Likert type scale which rates items from 0 (Strongly disagree) to 3 (Strongly agree) (Vaux, Burda & Stewart 1994). Higher scores indicate a negative degree of Network Orientation (Appendix E). The NOS has shown satisfactory reliability with alpha scores ranging from .60 to .88 (Gibson & Hartshorne, 1996). It was decided to add the Network Orientation Scale to the survey as a way to test for access to and use of external resources as mitigating factors to student-supervisor relationship. As has been explored, Network Orientation is closely connected to early attachment (Wallace & Vaux, 1993) and has implications for Self-Esteem later in life (Erol & Orth, 2013).

### **3.8. Procedure**

The survey was administered through Survey Monkey. This is a software application that enables on-line administration of surveys with a number of features that are time and cost-effective. Online administration was deemed appropriate for postgraduate students since they would have easy access to email and internet connections on campus, as well as being more able to fit into participants' schedules. Invitations to participate were sent via e-mail to eligible students. The researcher requested a list of preferred e-mails used by students from departments in the faculty to avoid scenarios where students do not access university

accounts regularly. This emerged as a particular challenge as not all departments were able to respond with a list of preferred e-mail addresses. E-mails were sent through the Survey Monkey website to both preferred personal and university-generated accounts. The e-mails included a brief description of the study and a link for students agreeing to participate. The application also allows for automated reminder e-mails to be sent to those who had not responded to the invitation or those who had not completed the survey without disclosing identities of completed surveys to the researcher. This afforded participants anonymity and the researcher the ability to send reminder e-mails to those who had not responded to the invitation or those who had not completed the survey.

A challenge that was not anticipated was whether participants would access the e-mail and survey via a mobile device. Administration on mobile devices was not tested and it is possible that administration may have been more difficult or that Survey Monkey may not have been supported on these devices.

A dry-run of the survey was sent to the researcher's e-mail address, as well as his supervisor on the 16<sup>th</sup> of August 2013. This was done to assess the ease of administration and accuracy of the survey. The survey was opened on a number of different monitors and internet browsers to ensure the look and feel of the survey remained consistent, accessible and legible. The survey went live and was sent to participants on the 6<sup>th</sup> of October 2013. The survey remained active until the closing date. Reminder e-mails and invitations to preferred e-mail addresses were scheduled in consultation with the researcher's supervisor. The first reminder e-mail was sent on the 13<sup>th</sup> of October, exactly one week after going live. With response from department administrators, invitations were sent to the preferred e-mail addresses of 22 participants on the 2<sup>nd</sup> of November along with a general reminder. Further reminders were sent out on the 27<sup>th</sup> of November. The final reminder e-mail was sent out on December 10<sup>th</sup>. No further reminders were sent after this date as reminder emails had ceased



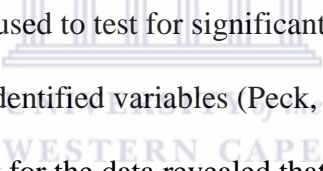
to yield an increase in responses. After this date, the survey was closed and data analysed using the Statistical Package for the Social Sciences (SPSS) version 22.

### **3.9. Analysis**

#### **3.9.1. Descriptive statistics**

Descriptive statistics, in particular frequencies distributions, were used to summarize the demographic profile of the sample. Descriptive statistics are deemed appropriate for this purpose since it increases familiarity with the sample and allows the researchers to test for associative and predictive relationships between demographic and predictor variables (Walker & Maddan, 2013).

#### **3.9.2. Inferential Statistics**



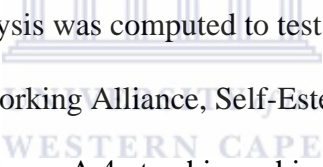
Inferential statistics were used to test for significant associative relationships and predictive relationships between identified variables (Peck, Olsen & Devore, 2011). A cursory viewing of the scatter-plot for the data revealed that the data was normally distributed which satisfied an important assumption for the use of parametric statistics. The predictive relationships were tested using hierarchical regression to be discussed in detail later.

Reduced power is often associated with sample size, use of non-parametric statistics and lack of satisfying the assumptions (Pretorius, 2007). In this instance the use of parametric statistics was decided upon based on the normality of the data and the sample size. On the one hand researchers, such as Rossi(1990) have long argued that smaller samples reduce power whereas Howell (2007) argues that significant findings in smaller samples are more robust than in larger samples. In this case, the ensuing results will be interpreted with caution and careful observance of the delimitations of the study.

### 3.9.3 Correlation matrix

Inferential statistics were used to test the associative relationship between demographic variables and identified variables. A correlation matrix was computed to determine if any of the demographic variables were significantly correlated with the outcome variable, as well as the predictor variables. Walker and Maddan (2013) supported the use of correlation indices to assess for shared variance between variables in order to identify potential covariates that might need to be controlled for in ensuing analyses. Any of the demographic variables that were significantly correlated with the predictor or outcome variables was identified as potential covariates and was thus considered for inclusion in the final regression analyses.

### 3.9.4. Regression Analysis



A multiple regression analysis was computed to test the predictive relationship between the predictor variables Working Alliance, Self-Esteem, Network Orientation and the outcome variable, Perception of Stress. A 4-step hierarchical regression was used to test the hypothesized relationships. Multiple regressions are appropriate where the predictive relationship between 2 or more variables is tested on an outcome variable (Stevens, 2009). This method enters the variables in steps that are specified *a priori* in order to test the strength of individual predictors and the extraneous relationships between variables e.g. moderation or mediation (Gordon, 2012). This allows the predictors to compete in the context of a model and then identify whether they are significant predictors of the outcome variable (Walker & Maddan, 2013).

The process was broken into 4 main steps. Step 1 entailed testing the relationship between Self-Esteem and Network Orientation to ascertain if they could predict each other. The second step tested Self-Esteem and Network Orientation separately to see if either of

them could predict Working Alliance. Step 3 was to run a test to determine if Self-Esteem and Network Orientation could, together, predict Working Alliance controlling for Gender and Race. The fourth step combined Working Alliance, Network Orientation and Self-Esteem with covariates to predict Perception of Stress. This omnibus test was necessary given the significant inter-correlation between Working Alliance, Self-Esteem and Network Orientation (Gordon, 2012). In this way the predictors are allowed to compete in a single model that can determine the unique contribution of each, controlling for the other predictors (Bless, Higson-Smith & Kagee, 2006)

Brace, Kemp and Snelgar (2003) recommended that a minimum of 10 participants per predictor variable are required for samples to support regression analyses. In this instance a minimum of 2 predictor variables have been identified and additional ones may be identified after the correlational matrix has been completed. A more conservative threshold was set at 15 participants per variable in order to support the use of parametric modelling (Stevens, 2009). In this case no more than four variables were tested at a time that would set the minimum sample size at 60 participants. In this instance, the sample size was sufficient to proceed with the analysis as planned.

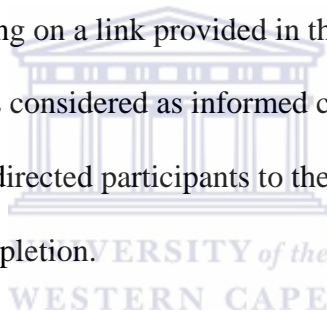
The final sample size also satisfied the requirement of a minimum of 50 participants to ensure that the use of parametric statistics was supported since the t- and z- distributions become identical at  $n=50$  (Walker & Maddan, 2013). The sample size of 73 exceeded the minimum sample size required (10 per variable) to ensure the robustness of the analysis.

### **3.10. Ethics**

Ethics clearance and project registration was obtained from the Senate Research Committee in order to conduct the study (Appendix F). Permission to conduct the study at the identified university with registered Masters' students was granted from the Office of the

Registrar and the Dean of Research (Appendix G). In addition access to students was negotiated with or obtained from the Dean of the Faculty of Community and Health Sciences, as well as Heads of Departments in which the students were registered. An information sheet for all line managers was also prepared in order to explain the purpose of the study and what participation would entail (Appendix H).

All eligible participants (sampling frame) received an electronic invitation, via e-mail that included an information sheet summarizing their rights as participants and the aims of the study, as well as the names of persons to contact in the event of recourse being sought (Appendix I). Participants were asked to complete a consent form (Appendix J) that they submitted electronically by clicking on a link provided in the e-mail. With all the information provided, clicking on the link was considered as informed consent and an agreement to participate in the study. The link directed participants to the unique Survey Monkey page and the survey questionnaires for completion.



Participants were also informed that the findings would be disseminated in an unpublished thesis, conference presentation and an article submitted to a journal for publication. The identity of participants has been kept anonymous in all means of dissemination. The Survey Monkey website allowed for follow-up e-mails to be sent to uncompleted surveys without the researcher accessing the specific e-mail address – which served to further protect the anonymity of responses and privacy of participants. Participants had the option of withdrawing from the study at any time without fear of negative consequence. Participants who chose to withdraw, or potential participants who opted not to participate in the study, were still able gain access to the resource drop-box after completion of the study.

## 4. Results

### 4.1 Demographic profile:

Of the total respondents, 61.64% were female (45) and 38.36% were male (28). Of the total respondents 47.95% (n=35) self-identified as black, 27.40% (n=20) as coloured, 15.07% (n=11) as white, 6.85% (5) as Indian and 2.74% (2) as “Other”. Respondents ranged in age from 23 to 55 years and were split nearly equally in terms of their full time (50.68%, n=37) or part time status (49.32%, n=36). 29.6% of participants had been enrolled in 2013 (n=21) with 23.9% for both 2012 (n=17) and 2011 (n=17). 7% had enrolled in 2010 (n=5) 7% in 2009 (n=5) and 8.5% in 2008 (n=6). Respondents were enrolled in various departments of the Community Health Sciences Faculty as represented in Table 1 below.

Table 1: Frequency Distribution of Students per Department of Registration (n=73)

Department	Number	Percentage
Occupational Therapy	0	0.0%
Physiotherapy	9	12.33%
Social Work	5	6.85%
Sport and Recreation Exercise Science (Including Biokinetics)	2	2.74%
Psychology	15	20.55%
Dietetics (Including Human Ecology and Nutrition Management)	1	1.36%
Public Health	25	34.25%
Nursing	14	19.18%
Child and Family Studies	2	2.74%
TOTAL	73	

Of the total respondents 19.7% (n=14) had already submitted their theses for examination.

19.7% (n=14) of the respondents were still in the conceptualization (2.8%, n=2) and proposal writing (16.9%, n=12) phases at the time of the study. 14.1% (n=10) participants had submitted to the Higher Degrees Committee for ethics clearance and a further 14.1% (n=10) were in the process of data collection. The remaining participants were in the process of data analysis 8.5% (n=6) or writing up their thesis 23.9% (n=17).

## 4.2 Correlations between predictor variables and demographic variables

Table 2: Correlation Matrix for 3 demographic variables and predictor Variables (n=73)

	1. Race	2. Age	3. Gender	4. NO	5. PS	6. SE	7. WA
1. Race	--						
2. Age	<b>.255*</b>	--					
3. Gender	<b>.286*</b>	-.049	--				
4. Network Orientation	<b>-.310*</b>	.059	.020	--			
5. Perception of Stress	-.026	-.015	-.158	-.016	--		
6. Self-Esteem	.033	<b>.328**</b>	.124	<b>.274*</b>	-.023	--	
7. Working Alliance	<b>.369**</b>	.123	<b>.254*</b>	<b>-.373**</b>	-.071	<b>.265*</b>	--

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

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

From Table 2 above, Race has been identified as being significantly correlated with Network Orientation ( $r = .31$ ) at a .05 alpha level. The size of the correlation indicates a small association between Race and Network Orientation. The correlation index was negative in nature suggesting that Black students were more inclined to make use of support networks. The coefficients of determination ( $r^2 = .096$ ) indicates that 9.6% of the variance on Network Orientation is a function of Race.

Significant correlations were also found between Self -Esteem and Age ( $r = .33$ ) at a .05 alpha level. The sizes of the correlations indicate a small association between Self-Esteem and Age. The positive nature of the correlation suggests that older students are reportedly more certain of themselves. The coefficient of determination ( $r^2 = .10$ ) indicates that 10% of the variance on Self-Esteem is a function of Age.

Working Alliance was positively correlated with Race ( $r = .37$ ) and Gender ( $r = .25$ ), as demographic variables. The size of the correlation indicates a small association between Working Alliance and Race, and Gender respectively. These correlations suggested that

increased Working Alliance tended to be associated significantly with minority groups and female students as indicated by the positive signage.

#### **4.3 Correlations between predictor variables and outcome variable**

Working Alliance was positively correlated with Network Orientation ( $r = -.37$ ) and Self-Esteem ( $r = .27$ ). The sizes of the correlation indices for Network Orientation and Self-Esteem with Working Alliance were small. These positive correlations between Working Alliance and Self-Esteem suggested that increased Working Alliance tended to be associated significantly with increased confidence in the self-concept. The inverse relationship between Working Alliance and Network Orientation actually reflects a positive relationship since Network Orientation coded so that higher scores reflected lower predispositions to make use of social support. Thus increased Working alliance was associated with increased proclivity to make use of support networks. The coefficients of determination indicated that 7% and 14% of the variance on Working Alliance was a function of Self-Esteem and Network Orientation respectively.

None of the predictor variables were significantly correlated with the outcome variable, Perceived Stress. Given the significant correlations of Age, Gender and Race with some of the predictor variables; they were included in the first three steps of the regression. Their performance in these models would determine inclusion in subsequent steps.

#### **4.4. Hierarchical Regression:**

Table 3 below summarizes the results of the hierarchical regression analysis.

Table 3: Hierarchical Regression analysis (n=73)

Step	Model	Predictors	Outcome	R2	b
1	1	SE Gender Race Age	NO	.44**	-2.61** -1.08 2.94* -1.15
	2	NO Gender Race Age	SE	.38**	-.257** .134* .275* .133
2	3	SE Gender Race Age	WA	.27**	.254* .133 .337** -.036
	4	NO Gender Race Age	WA	.25**	-.301** .200 .205 .068
3	5	SE NO Gender Race	WA	.47**	.248* -.170 .241 .166
4	6	WA SE NO RACE	PS	.62**	2.79 .074 452** .210

\* $p < .05$

\*\* $p < .01$

**Step 1:** The first step tested two models: Model 1 was to determine if Self-Esteem could significantly predict Network Orientation and Model 2 tested the inverse with both models controlling for Race, Gender and Age. The models were significant at a 0.01 alpha level whilst providing 44% and 38% explanation for the observed variances respectively.

From Model 1, Self-Esteem was a significant predictor of Network Orientation controlling for Gender, age and Race at a .01 alpha level. For every one unit increase in Self-Esteem, there was a corresponding decrease of 2.61 units in Network Orientation controlling for the other predictors. The signage here, though negative, actually reflects a positive slope based on the way in which Network Orientation was scored i.e. a higher Network Orientation score reflected a *decreased* proclivity to make use of social support.



From Model 2 Network Orientation was a significant predictor of Self-Esteem controlling for Gender, Age and Race at a .01 alpha level. For every one unit increase in Network Orientation, there was a corresponding decrease of 2.57 units in Self-Esteem controlling for the other predictors. As mentioned before; the negative signage indicates a positive slope. Thus increased likelihood to make use of social support is a function of increased confidence in the self, controlling for Gender and Race and Age.

Gender was a significant predictor of Self-Esteem controlling for Network Orientation, Age and Race at a .05 alpha level. For every one unit increase in Gender, there was a corresponding increase of .134 units in Self-Esteem controlling for the other predictors in the model. Race was a significant predictor of Self-Esteem controlling for Network Orientation, Age and gender at a .05 alpha level. For every one unit increase in Network Orientation, there was a corresponding increase of .275 units in Self-Esteem controlling for the other predictors. In short, Network Orientation and Gender were reciprocally predictive controlling for Gender, Race and Age. Gender was a significant predictor of Self-Esteem whereas Race was a significant predictor of both Network Orientation and Self-Esteem.

**Step 2:** The second step tested two models: Model 3 and Model 4 tested whether Self-Esteem and Network Orientation respectively could significantly predict Working Alliance controlling for Race, Gender and Age. Both models tested significant at a .01 alpha level whilst explaining 27% and 25% respectively of the variances observed on Working Alliance.

From Model 3, Self-Esteem and Race were significant predictors of Working Alliance controlling for Gender and Age at a .01 alpha level. For every one unit increase in Self-Esteem, there was a corresponding increase of .25 units in Working Alliance. Similarly, for every one unit increase in Race, there was a corresponding increase of .34 units in Working Alliance controlling for the other predictors. In other words, minority students were more

appreciative of and sensitive to the quality of the relationship with the supervisor. More self-assured students were better able to have a positive working alliance.

From Model 4, Network Orientation was a significant predictor of Working Alliance controlling for Gender, Age and Race at a .01 alpha level. For every one unit increase in Network Orientation, there was a corresponding decrease of .30 units in Working Alliance controlling for the other predictors. As mentioned before the negative signage actually indicates a positive slope based on the manner in which Network Orientation was coded. In short, more socially oriented students were better able to establish a working relationship with supervisors.

**Step 3:** The third step regressed Network Orientation and Self-Esteem together with Gender and Race. Age was excluded from this model given its lack of performance in the preceding models. The model tested significant at a .01 alpha level and explained 47% of the variance on Working Alliance. From this model Self-Esteem emerged as a significant predictor of Working Alliance controlling for Network Orientation, Race and Gender at a .05 alpha level. For every one unit increase in Self-Esteem, there was a corresponding change of .25 in Working Alliance controlling for the other predictors. In other words, more self-assured students were better able to establish a good working relationship with their supervisors taking into account Network Orientation, Race and Gender.

**Step 4:** The fourth step regressed Working Alliance, Network Orientation and Self-Esteem together with Race. Race was the only covariate included since it was significant in all preceding steps. Age and Gender was excluded from this model given its lack of performance in the preceding models. The model tested as significant at a .01 alpha level and explained 62% of the variance on Perception of Stress. From this model Network Orientation

emerged as a significant predictor of Perception of Stress controlling for Working Alliance, Self-Esteem and Race at a .01 alpha level. Network Orientation is significant only in the presence of Working Alliance and does not have a direct effect on Perception of Stress when regressed in a simple linear regression analysis, suggesting a mediation effect. For every one unit increase in Network Orientation, there was a corresponding increase of 2.79 units in Perception of Stress controlling for the other predictors. Thus students who were socially oriented were less likely to perceive their work as stressful taking into account Self-Esteem, Working Alliance and Race.

## **5. Discussion**

The aim of the present study was to ascertain what the relationships between Demographic Variables, Working Alliance, Self-Esteem, Network Orientation and Perception of Stress are.

Working Alliance was associated significantly with Race and Gender. This further echoes the research done by Matonet al (2011) that showed that the supervisory relationship was the most important factor for success for minority groups. Further, Working Alliance was associated significantly with students who were more inclined to access support networks (Network Orientation) and with those students with greater Self-Esteem. In simpler terms, those students who had a better regard for themselves and were more inclined to access the resources available to them had a better relationship with their supervisors. This makes sense on an instinctual level and is also supported by the literature that describes the importance of self-esteem in achievement and academic success (Green, 2011; Lane, Lane and Kyprianou, 2004).

This study has also attempted to establish the predictive relationship between Working Alliance, Self-Esteem, Network Orientation and Perception of Stress with regards to the sampling frame outlined above. The results suggested that Network Orientation is able to significantly predict Perception of Stress, but only through Working Alliance, controlling for both Self-Esteem and Race (Mediation effect). Working alliance is thus shown to be an imperative component in how students view their thesis work (Maton, et al, 2011) but also in the context of the working alliance, a larger likelihood to seek help (Network Orientation) can predict lower levels of perceived stress with regards to thesis work. This finding is consistent with Vaux, Burda and Stewart (1994) who in their early work pointed out that the extent to which students are likely to seek out the help of others or to access existing support structures can interact (mediate or moderate) the effects of a construct such as Self-Esteem.

The combination of Self-Esteem and Network Orientation while controlling for Race can significantly predict the quality of the relationship between students and their supervisor (Working Alliance). In that combination, Self-Esteem is significantly predictive of Working Alliance – those students with a high self-esteem have a better relationship with their supervisors. However, as similarly examined in the therapeutic study by Redko, Rapp, Elms, Snyder and Carlson (2007) it is important to consider that a student may in fact report feeling better about themselves at the time of the study precisely because of the good relationship they have with their supervisor. As the present study is cross-sectional in nature it is difficult to ascertain the exact nature of this relationship.

Lastly, the combination of Self-Esteem, Working Alliance, Race and Network Orientation *can* significantly predict Perception of Stress. In that combination, Network Orientation is a significant predictor in the presence of Working Alliance whereas it did not have a direct effect on Perception of Stress when regressed in a simple linear regression analysis, suggesting a mediation effect.

## **6. Conclusion**

The perception of thesis work as stressful was found to be a function of Network Orientation controlling for Working Alliance, Race and Self-Esteem. In fact, Network Orientation only had a significant impact on the Perception of Stress in the presence of Working Alliance in combination with Race and Self-Esteem. This suggests an extraneous relationship whereby the Working Alliance becomes an important conduit through which Network Orientation becomes a significant predictor of perceived stress (i.e. mediation) controlling for Self-Esteem and Race.

Self-Esteem and Network Orientation were found to be reciprocally determining; meaning that they could significantly predict each other. Both Self-Esteem and Network Orientation could also significantly predict working alliance as independent criterion variables. When combined, Self-Esteem dominated Network Orientation as a significant predictor of Working Alliance controlling for Race.

In short, the results of this study underscore that research supervision is a dynamic process that is impacted by personal variables (e.g. Self-Esteem, Network Orientation) and demographic variables (e.g. Race and Gender). Furthermore, it underscores that these variables are likely operating in interactional models which are consistent with the complex nature of dyadic relationships.

## **7. Limitations of the study**

One of the limitations of the present study is the difficulty of response rate. The researcher attempted to address this by providing incentives (access to resources and a lottery) to increase responses. A significant limitation was the assumption that the survey would be accessed through a traditional PC or Laptop computer. The changing face of

technology and the ability to access e-mail through mobile devices such as cell-phones or tablet computers must become a major consideration when administering any kind of online survey or test.

As the present study was confined to one Faculty at a Historically Disadvantaged University, it may be difficult to apply these results universally as context and perceptions about context might differ. For example, how students subjectively felt about the quality of the resources available to them was not accounted for and lay beyond the scope of the present study.

The present study was also limited by the narrow range of constructs that it measured. It became increasingly clear that the dynamic nature of the supervisory relationship is affected by many factors, of which psychological factors forms just one part, which were not taken into consideration. The present study also only measured the *students'* perceptions and did not take the supervisors' contributions into account – this may have provided a fuller picture of the thesis endeavour.

## **8. Significance of the study**

With a large amount of emphasis on throughput and retention at tertiary institutions with particular focus on post-graduate students (Braxton, Hirschy, & McClendon, 2004), deeper understanding of the experience of the thesis endeavour would prove very useful. This makes this study, and potential future studies important as we can see that personal, psychological factors (such as Self-Esteem) can interact to impact academic achievement positively or negatively.

Similar studies (replications) at other tertiary institutions would enable the validity of the results to be strengthened and the impact of this understanding to reach further. The

current study in particular provides empirical evidence that the Working Alliance between students and their supervisors is a function of personality factors such as Self-Esteem and Network Orientation. Working Alliance in interaction with such variables form a vital determinant of the Perception of Stress associated with the thesis endeavour. Likewise demographic variables like Race form an integral part of the significant regression model in providing a semi-partial explanation for the variance in the perception of thesis work as stressful. This means that by working on the alliance between student and supervisor, as impacted by personality and demographic variables, it may be possible to decrease or contain the stress associated with the thesis endeavour. If it follows that a less stressful experience of the thesis leads to a greater likelihood of it being attended to and completed timeously, the beneficial implications for tertiary institutions are far-reaching.



## **9. Recommendations**

Similar studies exploring alternate psychological constructs such as locus of control, attachment style etc. would enable greater understanding of those elements that impact on the supervisory relationship and by extension on post-graduate research. To further the previous point, studies exploring the perceptions and psychological constructs of the supervisors will enable a far richer understanding of the relationship to be achieved as relationships are dynamic and reciprocal in nature.

Since supervision is a distinct clinical competence not automatically achieved by nature of being an academic staff member, it is a skill which must be developed (Falender & Shafranske, 2014). Universities must ensure that they are able to train and equip supervisors with the competencies required not only to supervise well, but to connect with their supervisees and accommodate the impact of personal and demographic variables. If

supervisors are able to frame supervision as not only an academic and skills-transference process, but as a dynamic relationship that is subject to all psychological, personal and social factors, they may significantly increase students' ability to complete their thesis requirements.





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## Appendix A: Demographic Questionnaire

This information is for research purposes only and will be kept strictly confidential

Please tick (v) or complete the appropriate box:

Gender: Male  Female

Country of Origin: \_\_\_\_\_

Race: White  Coloured  Black  Indian  Other \_\_\_\_\_

Current Age:

Year of first enrolment  Fulltime:  Part-time:

Current enrolment: 1<sup>st</sup>  2<sup>nd</sup>  3<sup>rd</sup>  4<sup>th</sup> and more

Have you had a break in your studies? YES  NO

Have you been academically excluded from your Masters studies? YES  NO

Do you currently have a supervisor assigned? YES  NO

Have you had supervisors reassigned during the course of your studies?

YES  NO

Has your supervisor taken extended periods of leave or sabbatical during your studies?

YES  NO

What is the gender of your supervisor? Male  Female

What is the race of your supervisor?

White  Coloured  Black  Indian  Other \_\_\_\_\_

Approximately how many students has your supervisor supervised to completion in the last three years?

Approximately how many students is your supervisor currently assigned to?

Approximately how many years has your supervisor worked at UWC?

Approximately how many years has your supervisor been an academic?

Are you receiving a scholarship for your studies?

Are you employed whilst studying? YES  NO

Are you a full time student? YES  NO

Department in CHS:

Occupational Therapy

Physiotherapy

Psychology

Nursing

School of Public Health

Social Work



Approximate number of Supervision sessions per month:

None  1-2  3-4  5-6  Greater than 7

Where are you in the research process

- Conceptualization phase
- Proposal writing
- Ethical clearance and submission to Higher Degrees committee
- Data Collection
- Data analysis
- Writing up of thesis.
- Submission for examination

Thank you for your participation

## Appendix B: The Rosenberg Self-Esteem Scale

Instructions: Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, tick Strongly Agree. If you agree with the statement, then tick Agree. If you disagree, tick Disagree. If you strongly disagree, tick Strongly Disagree.

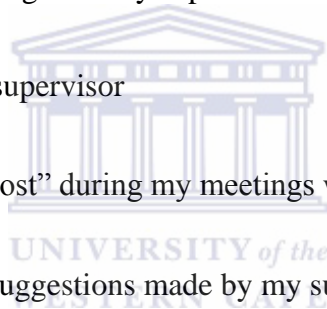
		Strongly Agree	Agree	Disagree	Strongly Disagree
1	On the whole, I am satisfied with myself	1	2	3	4
2*	At times, I think I am no good at all	1	2	3	4
3	I feel that I have a number of good qualities	1	2	3	4
4	. I am able to do things as well as most other people	1	2	3	4
5*	I feel I do not have much to be proud of	1	2	3	4
6*	I certainly feel useless at times	1	2	3	4
7	I feel that I'm a person of worth, at least on an equal plane with others	1	2	3	4
8*	I wish I could have more respect for myself	1	2	3	4
9*	All in all, I am inclined to feel that I am a failure	1	2	3	4
10	I take a positive attitude toward myself	1	2	3	4

## Appendix C: Working Alliance Inventory

These 30 items pertain to your perceptions about your relationship with your thesis supervisor. Please respond to the items using the following scale by ticking/ circling the most appropriate box:

1. I get the feeling that my supervisor does not like me very much  
1    2    3    4    5
2. My advisor introduces me to professional activities (Conferences, submitting articles for journal publication etc.)  
1    2    3    4    5
3. I do not want to be like my supervisor  
1    2    3    4    5
4. My supervisor welcomes my input into our discussions  
1    2    3    4    5
5. My supervisor helps me conduct my work within a plan  
1    2    3    4    5
6. I tend to see things differently from my supervisor  
1    2    3    4    5
7. My supervisor **does not** encourage my input in discussions  
1    2    3    4    5
8. My supervisor has invited me to be a responsible collaborator in his/her own work  
1    2    3    4    5
9. I **do not** want to feel similar to my supervisor in the process of conducting work  
1    2    3    4    5
10. My supervisor is **not** kind when commenting about my work  
1    2    3    4    5
11. My supervisor helps me establish a timetable for the tasks of my graduate training  
1    2    3    4    5
12. My supervisor and I have different interests  
1    2    3    4    5
13. I do **not** feel respected by my supervisor in our work together  
1    2    3    4    5
14. My supervisor is available when I need him/ her  
1    2    3    4    5
15. I feel like my supervisor expects too much from me  
1    2    3    4    5
16. My supervisor offers me encouragement for my accomplishments  
1    2    3    4    5

17. Meetings with my supervisor are unproductive  
1      2      3      4      5
18. I do **not** think that my supervisor believes in me  
1      2      3      4      5
19. My supervisor facilitates my professional development through networking  
1      2      3      4      5
20. My supervisor takes my ideas seriously  
1      2      3      4      5
21. My supervisor does **not** help me stay on track in our meetings  
1      2      3      4      5
22. I do **not** think that my supervisor has my best interests in mind  
1      2      3      4      5
23. I learn from my supervisor by watching him/ her  
1      2      3      4      5
24. I feel uncomfortable working with my supervisor  
1      2      3      4      5
25. I am an apprentice of my supervisor  
1      2      3      4      5
26. I am often intellectually “lost” during my meetings with my supervisor  
1      2      3      4      5
27. I consistently implement suggestions made by my supervisor  
1      2      3      4      5
28. My supervisor strives to make program requirements as rewarding as possible  
1      2      3      4      5
29. My supervisor does **not** educate me about the process of graduate school  
1      2      3      4      5
30. My supervisor helps me recognize areas where I can improve  
1      2      3      4      5



## Appendix D: Perceived Stress Scale

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate by circling how often you felt or thought a certain way.

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often

1. In the last month, how often have you been upset because of something that happened unexpectedly? 0 1 2 3 4
2. In the last month, how often have you felt that you were unable to control the important things in your life? 0 1 2 3 4
3. In the last month, how often have you felt nervous and “stressed”? 0 1 2 3 4
4. In the last month, how often have you felt confident about your ability to handle your personal problems? 0 1 2 3 4
5. In the last month, how often have you felt that things were going your way? 0 1 2 3 4
6. In the last month, how often have you found that you could not cope with all the things that you had to do? 0 1 2 3 4
7. In the last month, how often have you been able to control irritations in your life? 0 1 2 3 4
8. In the last month, how often have you felt that you were on top of things? 0 1 2 3 4
9. In the last month, how often have you been angered because of things that were outside of your control? 0 1 2 3 4
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? 0 1 2 3 4

## Appendix E: Network Orientation Scale

This scale assesses the degree to which you access resources that are available to you.

Please indicate the extent to which you agree with the following items.

		Strongly Agree	Agree	Disagree	Strongly Disagree
1	Sometimes it is necessary to talk to someone about your problems	1	2	3	4
2	Friends often have good advice to give	1	2	3	4
3	You have to be careful who you tell personal things to	1	2	3	4
4	I often get useful information from other people	1	2	3	4
5	People should keep their problems to themselves	1	2	3	4
6	It's easy for me to talk about personal and private matters	1	2	3	4
7	In the past friends have really helped me out when I've had a problem	1	2	3	4
8	You can never trust people to keep a secret	1	2	3	4
9	When a person gets upset they should talk it over with a friend	1	2	3	4
10	Other people never understand my problems	1	2	3	4
11	Almost everyone knows someone they can trust with a personal secret	1	2	3	4
12	If you can't figure out your problem, nobody can	1	2	3	4
13	In the past I have rarely found other people's opinions useful when I have a problem	1	2	3	4
14	It really helps when you are angry to tell a friend what happened	1	2	3	4
15	Some things are too personal to talk to anyone about	1	2	3	4
16	It's fairly easy to tell who you can trust, and who you can't	1	2	3	4
17	In the past I have been hurt by people I confided in	1	2	3	4
18	If you confide in other people, they will take advantage of you	1	2	3	4
19	It's okay to ask favours of people	1	2	3	4
20	Even if I need something, I would hesitate to borrow it from someone	1	2	3	4



## Appendix F: Ethics Clearance



### OFFICE OF THE DEAN DEPARTMENT OF RESEARCH DEVELOPMENT

04 July 2013

#### To Whom It May Concern

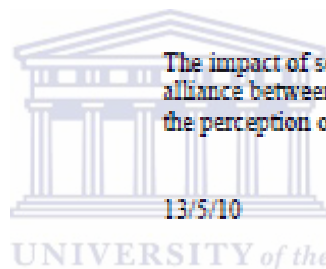
I hereby certify that the Senate Research Committee of the University of the Western Cape has approved the methodology and ethics of the following research project by:  
Mr J-P Senekal (Psychology)

Research Project:

The impact of self-esteem on the working alliance between students and supervisors and the perception of thesis work as stressful

Registration no:

13/5/10



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*

## Appendix G: Permission to Conduct Study



# UNIVERSITY OF THE WESTERN CAPE

Department of Psychology

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959 2283, Fax: 27 21-959 3515

*mrsmith@uwc.ac.za*

The Registrar  
Student Administration  
UWC  
Private Bag X17  
Bellville, 7535  
10 June 2013

Re: Permission to conduct research at the University of the Western Cape.

I am currently registered as a student in the M. Psych programme at UWC. I have to complete a research project/ thesis in partial fulfilment of the degree requirements. To this end, I wish to apply for permission to conduct my Masters level study at UWC. The proposed study has been approved for ethics clearance at the Senate Research Committee (7 June 2013). The study aims to explore the impact of Self-esteem on students' perceptions about the working alliance with their thesis supervisor and the perception of thesis writing as stressful. The study is being supervised by Dr. Mario R. Smith and he is also co-signing this letter to request permission to conduct the study.

The study has been designed with Masters Students in CHS as the population and CHS faculty at UWC as the research setting. The proposed study is an internet survey in which students will be asked to complete an online survey including measures of stress, working alliance, self-esteem and demographic variables. This survey will take approximately 20 minutes to complete in an on-line forum called Survey monkey. The Survey Monkey website allows follow-up emails to be sent to uncompleted surveys without the researcher accessing the specific email address or details of the participants. This will further protect the anonymity of responses and privacy of participants. Findings will be treated confidentiality. There are no known risks associated with participating in this research project. Upon completion students will gain access to a drop-box with resources about thesis writing. An incentive for completing the survey will also be offered in the form of a lucky draw for a R250 Book voucher.

The benefits of participating include

- An opportunity for students to reflect on the process of writing their theses
- An opportunity for students to reflect on the working alliance with their supervisors
- An opportunity to access resources about thesis writing after completion of the survey.
- To be entered into a lucky draw for a R250 Book voucher if you successfully complete the survey

In addition to permission to conduct the study, I would like to request access to the names and student e-mail addresses for Masters Students registered in CHS in order to invite them electronically to participate in the study.

We anticipate that the proposed study will help us gain insight into the impact of internal/ psychological and relational aspects of completing postgraduate research work. This in turn could be helpful in facilitating retention and throughput of post graduate students. Find attached a copy of the proposal, ethics clearance certificate and proof of registration.

We hope that this application will be met with your favourable approval. Please do not hesitate to contact my supervisor or myself if you require additional information.

Thanking you in anticipation.

Mr. J. Senekal  
Student # 3268664  
[jeanpierre.senekal@yahoo.com](mailto:jeanpierre.senekal@yahoo.com)  
Cell: +27+842057237

Dr. Mario R. Smith  
Supervisor  
[mrsmith@uwc.ac.za](mailto:mrsmith@uwc.ac.za)  
Cell: +27+ 823309284/ Office X3713

## Appendix H



# UNIVERSITY OF THE WESTERN CAPE

Department of Psychology

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959 2283, Fax: 27 21-959 3515

*mrsmith@uwc.ac.za*

## INFORMATION SHEET

### Line Managers

**Project Title: The Impact of Self-Esteem on the Working Alliance between Students and Supervisors and the Perception of Thesis Work as Stressful.**

#### **What is this study about?**

This is a research project being conducted by Mr, Jean-Pierre Senekal and Dr. M. R. Smith at the University of the Western Cape. We are inviting you to participate in this research project because you are currently working on research in partial fulfilment of the degree requirements of a Master's programme. The purpose of this research project is to explore the impact of Self-esteem on students' perceptions about the working alliance with their thesis supervisor and the perception of thesis writing as stressful.

#### **What will I be asked to do if I agree to participate?**

You will be asked, as a line manager in CHS to provide information regarding the number of students registered for Masters Studies in your Faculty or department respectively. Heads of Departments will be asked to verify the number of students registered in their department and that they have been assigned to supervisors in order to determine eligibility for inclusion in the study. The identity of supervisors will not be requested.

#### **Would my participation in this study be kept confidential?**

We will try our utmost to protect the anonymity of responses and privacy of participants. Findings will be treated confidentiality.

#### **What are the risks of this research?**

There are no known risks associated with participating in this research project

#### **What are the benefits of this research?**

The benefits to you include:

- An opportunity to participate in a larger project that has the potential to assist in the retention and throughput of Masters students
- An opportunity to collate/ update descriptive statistics about students enrolled in Master's degree programmes in your department/ faculty that ultimately can be fed back into strategic documents such as, annual reports.

#### **Do I have to be in this research and may I stop participating at any time?**

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If

you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

Is any assistance available if I am negatively affected by participating in this study?

Appropriate referrals will be made if unforeseen negative impacts arise; however, no negative impacts are anticipated.

### **What if I have questions?**

This research is being conducted by Mr, Jean-Pierre Senekal at the Department of Psychology at the University of the Western Cape. If you have any questions about the research study itself, you can contact

**Mr, Jean-Pierre Senekal**  
Dept. of Psychology, UWC  
021-9592283/ 0842057237  
**jeanpierre.senekal@yahoo.com**

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Supervisor: **Dr. Mario Smith**  
Dept. of Psychology, UWC  
021-9592283/ 0823309284  
**mrsmith@uwc.ac.za**

Head of Department: **Dr. M. Andipatin**  
Dept. of Psychology, UWC  
021-9592283  
**mandipatin@uwc.ac.za**

Dean of the Faculty of Community and Health Sciences: **Prof. J. Frantz**  
University of the Western Cape  
Private Bag X17  
Bellville 7535  
021-959 2631  
**jfrantz@uwc.ac.za**

**This research has been approved by the University of the Western Cape's Senate Research Committee and Ethics Committee.**

## Appendix I



# UNIVERSITY OF THE WESTERN CAPE

Department of Psychology

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959 2283, Fax: 27 21-959 3515

*mrsmith@uwc.ac.za*

## **INFORMATION SHEET**

### **Participants**

**Project Title: The Impact of Self-Esteem on the Working Alliance between Students and Supervisors and the Perception of Thesis Work as Stressful.**

#### **What is this study about?**

This is a research project being conducted by Mr, Jean-Pierre Senekal and Dr. M. R. Smith at the University of the Western Cape. We are inviting you to participate in this research project because you are currently working on research in partial fulfilment of the degree requirements of a Master's programme. The purpose of this research project is to explore the impact of Self-esteem on your perceptions about the working alliance with your thesis supervisor and the perception of thesis writing as stressful.

#### **What will I be asked to do if I agree to participate?**

You will be asked to complete an online survey including measures of stress, working alliance, self-esteem and demographic variables. This survey will take approximately 20 minutes to complete in an on-line forum called Survey monkey.

#### **Would my participation in this study be kept confidential?**

The Survey Monkey website allows follow-up emails to be sent to uncompleted surveys without the researcher accessing the specific email address or details of the participants. This will further protect the anonymity of responses and privacy of participants. Findings will be treated confidentiality.

#### **What are the risks of this research?**

There are no known risks associated with participating in this research project

#### **What are the benefits of this research?**

The benefits to you include:

- An opportunity to reflect on the process of writing your thesis
- An opportunity to reflect on the working alliance between yourself and your supervisor
- An opportunity to access resources about thesis writing after completion of the survey.
- To be entered into a lucky draw for a R250 Voucher if you successfully complete the survey.

**Do I have to be in this research and may I stop participating at any time?**

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

**Is any assistance available if I am negatively affected by participating in this study?**

Appropriate referrals will be made if unforeseen negative impacts arise.

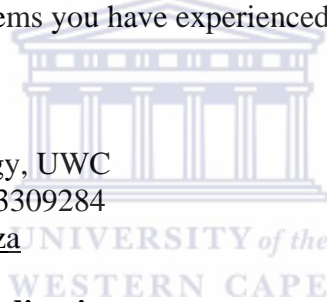
**What if I have questions?**

This research is being conducted by Mr, Jean-Pierre Senekal at the Department of Psychology at the University of the Western Cape. If you have any questions about the research study itself, you can contact

Mr, Jean-Pierre Senekal  
Dept. of Psychology, UWC  
021-9592283/ 0842057237  
[jeanpierre.senekal@yahoo.com](mailto:jeanpierre.senekal@yahoo.com)

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**Supervisor: Dr. Mario Smith**  
Dept. of Psychology, UWC  
021-9592283/ 0823309284  
[mrsmith@uwc.ac.za](mailto:mrsmith@uwc.ac.za)



**Head of Department: Dr. M. Andipatin**  
Dept. of Psychology, UWC  
021-9592283  
[mandipatin@uwc.ac.za](mailto:mandipatin@uwc.ac.za)

**Dean of the Faculty of Community and Health Sciences: Prof. J. Frantz**  
University of the Western Cape  
Private Bag X17  
Bellville 7535  
021-959 2631  
[jfrantz@uwc.ac.za](mailto:jfrantz@uwc.ac.za)

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## Appendix J



# UNIVERSITY OF THE WESTERN CAPE

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Tel: +27 21-959 2283, Fax: 27 21-959 3515

*mrsmith@uwc.ac.za*

## LETTER OF CONSENT

I, the undersigned, fully understand the research aims, my rights and my role as participant in the study, as well as issues related to confidentiality, as outlined in the information leaflet.

I hereby express my willingness to participate in this study. I am aware of my right to withdraw at any time.

I also grant permission to the researcher to disseminate the information obtained in the following formats:

- Unpublished thesis
- Conference presentation
- Published manuscript or article

I take cognisance that all documents or recordings will be destroyed at the end of the research process.

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**Participant's Name**

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**Date**

### Researcher's Contact Details

Jean-Pierre Senekal, University of the Western Cape, Department of Psychology.

Email address: jeanpierre@senekal.yahoo.com

**I thank you for your cooperation and you are welcome to contact me for any queries at the address given above.**

Click on the link below to submit your consent form, if you agree to participate in the study.

SUBMIT



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