THE RELATIONSHIP BETWEEN ACADEMIC COMMITMENT AND RESILIENCE FOR EDUCATION STUDENTS AT THE UNIVERSITY OF PRETORIA

BY

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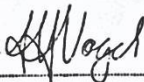essay, report, project, assignment, dissertation and/or thesis.

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DEGREE AND PROJECT	MEd The relationship between academic commitment and resilience for Education students at the University of Pretoria.
INVESTIGATOR(S)	Ben Dominic Viljoen
DEPARTMENT	Educational Psychology
DATE CONSIDERED	25 February 2015
DECISION OF THE COMMITTEE	APPROVED

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ABSTRACT

Within the present exploratory pilot study, the overarching aim was to explore the possibility of a relationship between academic commitment and resilience within the higher education context of the University of Pretoria. Both academic commitment and resilience had previously been found to influence student perseverance despite adversity and was explored utilising Bronfenbrenner's PPCT model based on his ecological theory as a conceptual framework; respondents were viewed as engines of their own development through engaging with proximal processes. The present study utilised a quantitative, correlational analysis of secondary data. The original data sets were both collected from the same sample of male and female adult higher education students whose ages ranged from 17 to 22 years. Data was collected by means of two survey instruments, namely the Resilience Scale for Middle-Adolescents in a Township School (R-MATS) and the Academic Commitment Scale (ACS). Findings indicated no significant correlation between academic commitment and resilience for Education students within the context of the University of Pretoria, however some correlations were evident between the subscales of the two constructs. A broader understanding regarding the relationship of these constructs could also assist with the identification of higher education students at risk, as well as informing possible interventions that can be put in place in order to better facilitate students in completing their courses of study. The results from the study, while viewed cautiously due to the sample size, address a perceived gap in the literature regarding whether a relationship exists between academic commitment and resilience and how this may link to student achievement.

KEY WORDS: Academic commitment, resilience, dropout, academic success, higher education, self-regulation

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CHAPTER 1

INTRODUCTION, BACKGROUND, RATIONALE, RESEARCH DESIGN AND CHAPTER PLANNING

1.1   INTRODUCTION

The transition to higher education can be a daunting one as students are exposed to new demands and challenges. This increased strain has been reported to result in students in higher education reporting difficulties in obtaining academic success and disillusionment with higher education (McInnis, Hartley, Polesel, & Teese, 2000; Ulriksen, Madsen, & Holmegaard, 2010). The dropout rate for higher education is significant, with the report of the Organisation for Economic Co-operation and Development (OECD) from 2009 (2009, p. 69) describing as many as one-third of higher education students dropping out before the completion of their first degree. Statistics for the dropout rate of South African students within higher education institutions support these findings with the International Education Association of South Africa (2012, p. 12) reporting a dropout rate as high as 45%, with a significant number of these students never going on to achieve a qualification.

What enables a student to achieve success in higher education is thus an important area for research (Bray, Braxton, & Sullivan, 1999; Fitzgibbon, 2006; Pritchard, Wilson, & Yamnitz, 2007) and involves a complex process of interplaying factors relating to both the higher education institution as well as the individuals themselves (Mills, Heyworth, Rosenwax, Carr, & Rosenberg, 2008; Ulriksen et al., 2010). In terms of the individual the will to achieve (Digman, 1989), sustained effort, being able to set goals (Barrick, Mount, & Strauss, 1993; Ulriksen et al., 2010), as well as engagement (Kahu, 2013; Tinto, 1993) have been indicated in the research as promoting academic success. Hu and Kuh (2002) state that it is this self-regulation, in terms of the motivation and effort that students generate themselves despite their challenges, that is so vital to their academic success. Poropat (2009) concurs with this statement and found in his research that it is true even after controlling for the effects of intelligence.

Currently there exists a wealth of research regarding factors and constructs which promote student success. For the present exploratory pilot study, the specific constructs chosen to investigate further are academic commitment and resilience. Firstly resilience, which can be defined as a "dynamic process wherein individuals display positive adaptation despite experiences of significant adversity or trauma" (Luthar & Cicchetti, 2000, p. 858), was found to promote student success (Tross, Harper, Osher, & Kneidinger, 2000) and influence persistence in higher education (Alva, 1991; Luthar, 2006; Tross et al., 2000).

The second construct, namely academic commitment, is less well researched (specifically in the higher education context) and limited evidence was found regarding a possible relationship between academic commitment and student success. There is however evidence of existing studies indicating a possible relationship between commitment in other contexts and how it may relate to student success (Jepson & Forrest, 2006; Sheard & Golby, 2007). Commitment is described in the literature in many forms and initially was conceptualised in terms of the percentage of effort and time that an individual devotes to educational activities (Kahu, 2013; Wong, 2000). Recently research however has indicated that time and effort are more accurate descriptions of engagement, which Human-Vogel (2013) describes as more a consequence of commitment.

Tinto (1975) provides another view wherein he describes commitment and engagement as interconnected, with a student's strong initial commitment resulting in increased engagement within the academic context. Alternatively the more higher education students engage academically and socially, the more they would be committed to their own academic success.

Both resilience and commitment have thus been indicated in exiting research to be positively correlated to student success. While no positive correlations between academic commitment and student success have yet been found it was hypothesised (for the purpose of this exploratory pilot study) that a similar positive correlation will exist. Due to their similar outcomes, and the fact that they are both a result of a

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complex interplay between the person and their context, I wish to explore (through the use of the present exploratory pilot study) whether a possible relationship exists between the two constructs within a higher education context.

1.2 BACKGROUND

1.2.1 Challenges of higher education and dropout

The transition to higher education brings with it numerous challenges which can negatively influence academic success and ultimately a student's willingness to remain in a higher education institution. Students find themselves exposed to increased personal freedom, independence, responsibility for their own actions and less parental supervision in terms of how they choose to spend their time and resources (Human-Vogel, 2008, p.117). Ramsburg (2007) and Stewart (2005) describe higher education students as having to juggle responsibilities within the family, job schedules, monetary responsibilities and concerns over health. It is a period where many individuals struggle to obtain academic success resulting in increased self-doubt, lowered confidence and disillusionment with higher education (McInnis et al., 2000; Ulriksen et al., 2010, p. 20).

South African students attending a higher education institution experience additional challenges which negatively impact their preparedness for higher education and their ability to effectively manage their studies. Many are from low income families and experience risks related to dangerous residential environments, low levels of parental involvement in matters related to their schooling, poor education quality from their time in primary and high schools, limits in terms of language and communication as well as the devastating effect that HIV/AIDS has on all areas of life within the family (Department of Education, 2001). Many are also the first member of their family to attend a higher education institution (International Education Association of South Africa, 2012).

1.2.2 Benefits of persisting and obtaining a higher education qualification

Despite the existence of multiple challenges and the significant percentage of students who do not complete a higher education degree, there are still those who

are able to persist. Research has indicated that those individuals who do continue on to achieve a higher education qualification obtain distinct advantages over those who do not acquire one (Pascarella & Terenzini, 2005). Such advantages have been shown to include a higher net occupational status over a high school diploma, increased workforce participation and decreased unemployment, more job satisfaction, significant advantages in job performance and finally higher net earnings (Pascarella & Terenzini, 2005, p. 536).

1.2.3   Resilience

Resilience within a higher education setting, for the purpose of the present study, will be defined in accordance with Mampane and Bouwer's (2011, p. 115) definition. Thus resilience can be defined as:

> "Having the disposition to identify and utilise personal capacities, competencies (strengths) and assets in a specific context when faced with perceived adverse situations. The interaction between the individual and the context leads to behaviour that elicits sustained constructive outcomes that include continuous learning (growing and renewing) and flexibly negotiating the situation."

Within Mampane and Bouwer's definition, resilience can be considered a constant process of personal and collective meaning making (Wexler, DiFluvio, & Burke, 2009, p. 566). Through high self-knowledge and self-acceptance, resilient individuals were shown to develop and persevere towards realistic goals (Dole, 2000), demonstrated a strong sense of purpose and future (Benard, 1993), and adaptive characteristics such as sense of control, challenge and commitment (Haggerty, Sherrod, Garmezy, & Rutter, 1996; Joseph, 1994; Kaplan, 1999). Brooks and Goldstein (2001) describe that it is these characteristics which empower the individual to be resilient, competent and to cope.

1.2.4   Academic commitment

Commitment, as a construct, has been investigated from a number of different viewpoints, including its role in relational (Rusbult, Maritz, & Agnew, 1998) and organisational (A. Ross & Gray, 2006) contexts. However research regarding specifically academic commitment, is far more limited, with commitment in academic settings only recently being investigated. Human-Vogel (2013) describes how it is reasonable to expect the development of commitment in academic contexts to entail dynamic and reciprocal interactions between various intrapersonal, interpersonal and environmental factors. Engagement, which Hu and Kuh (2002, p. 3) describe as the "quality of effort students devote to educationally purposeful activities" is one such dynamic interaction and is a predictor for achieving student outcomes (e.g., persistence and academic achievement) (Wawrzynski, Heck, & Remley, 2012).

For the purpose of this research, academic commitment will be defined in accordance with Human-Vogel's (2013, p. 24) definition which states that it involves:

> "identity level self-regulation based on coherent future self-construal's"; with substantial commitment involving "commitment to the self or to a particular identity, rather than to an external goal".

1.3   PROBLEM STATEMENT AND RATIONALE

Students who achieve academic success in higher education have been found to experience long lasting advantages compared to those who dropout (Pascarella & Terenzini, 2005) and thus constructs which enable a student to remain in a higher education institution and succeed in their academics despite challenges are an important area for research (Allen, 2006; Bray et al., 1999; Johnson & Watson, 2004; Simpson, 2002; Tinto, 2009).

Within the existing literature, the constructs of resilience and commitment have been extensively explored as constructs which could promote students to achieve success within higher education. Resilience, in particular, has become a focus for many higher education researchers. Research with regards to academic commitment

in a higher education context is far more limited (Human-Vogel & Mahlangu, 2009; Human-Vogel, 2008, 2013), with most studies instead focusing on persistence in education (Lavigne, Vallerand, & Miquelon, 2007; Vallerand, Fortier, & Guay, 1997), self-reported commitment to finishing college (Woosley & Shepler, 2011) and identity related commitment within an academic setting (Human-Vogel & Mahlangu, 2009; Human-Vogel, 2008, 2013).

However, to my knowledge, no presently published study investigates a possible relationship between resilience and academic commitment in any context. Thus the present exploratory pilot study, which explores this possible relationship between the two constructs of resilience and academic commitment, could thus contribute to a significant gap in the existing literature. If a relationship is found, the present exploratory study (which only seeks to determine the possibility of a correlation between resilience and academic commitment and not imply causality) could promote an area for more comprehensive future research.

1.4   CONCEPTUAL FRAMEWORK

Within the present study, a possible relationship between resilience and academic commitment will be explored within the microsystem of a higher education institution. According to Bronfenbrenner (1979) microsystems can be explained as the pattern of roles, activities, and interpersonal relations experienced by an individual within a particular setting which has specific material and physical characteristics'. In order to conceptualise the possible relationship between resilience and academic commitment in the microsystem of higher education Bronfenbrenner's Person, Process, Context, Time (PPCT) model, situated in his bioecological perspective, will be utilised (Bronfenbrenner & Morris, 2006, 1998; Bronfenbrenner, 1995, 1999).

The PPCT model attends to the interplay or interaction of four parts namely; (1) interactions with the proximal environment (process), (2) personal attributes of the individual (person), (3) the social context of the person at the micro-, meso-, exo-, and macrosystems (context), and (4) the change over time (time) (Bronfenbrenner,

1995). According to Bronfenbrenner (1998) development is thus conceptualised as the function of proximal processes between the person and their context over time. A description of these components, and their relation to conceptualising a possible relationship between resilience and commitment, will now follow.

The first component, proximal processes, is described by Bronfenbrenner (1995) as 'the engine of development' and involves an individual's interactions with persons, objects, and even symbols within their immediate context or micro-systems. Bronfenbrenner viewed these proximal interactions and processes as the way in which individuals come to make sense of the world around them, as well as the way that they comprehend their own position in it (Tudge, Mokrova, Hatfield, & Karnik, 2009, p. 200). In this view the student is not "a passive recipient of experiences in these settings, but someone who helps construct the setting" (Santrock, 2001, p. 48). Williams and Nelson-Gardell (2012) describe in their study how proximal processes (in terms of resilience) have been shown to occur through engaging with family, caring neighbours, lecturers, mentors and peers.

Characteristics such as student ability, achievement, biology, dispositions, values, temperament, personality and self-efficacy all interact with the higher education environment and either encourage or hinder increasingly complex interactional processes (Bronfenbrenner & Morris, 1998; Bronfenbrenner, 1992). It is these person characteristics which essentially have the power to shape the course of development in the future and they do this through their capacity to (most often indirectly) influence the emphasis and strength of proximal processes through a persons' life (Bronfenbrenner & Ceci, 1994; Bronfenbrenner & Morris, 2006; Bronfenbrenner, 2005). The constructs of resilience and academic commitment, within the present study, will also be conceptualised as person characteristics that are in constant interplay with proximal processes within the context of higher education. Thus both resilience and academic commitment are conceptualised as both something that stimulates and is a result of development.

As mentioned previously, the third component of the PPCT model is that of context which Bronfenbrenner (2005) describes as the pattern of activities, roles and interpersonal interactions experienced by the individual, which for this study specifically refers to the micro-system of the higher education institution. The sample for this study are in their first year of study and thus are essentially involved in different stages of an ecological transition from a different education context, be it high school or another higher education institution. First year students are in constant interaction (physically, socially and economically) with the context of the higher education institution and as such it modifies their proximal processes. The effects of context are both direct and indirect; either by initiating the motion of proximal processes and sustaining them at such a heightened level, or by reducing their initiation and exposing them to interference from environmental sources (Bronfenbrenner, 1999). Fleming and Ledogar (2007) support this view as they state that the context of the family and community hold protective factors that can promote resilience, thus setting a positive proximal process in motion.

The PPCT model thus provides a conceptual framework for exploring a possible relationship between resilience and academic commitment as it focuses on the complex interrelatedness of person, process and context. The bio-ecological model has been successfully used in existing resilience research (Mampane, 2010), specifically in terms of predicting resilience (Williams & Nelson-Gardell, 2012, p. 54) and understanding how resilience develops (Harvey, 2007; Williams, 2007). Mampane (2010) describes how the outcome of the resilience process closely relates to a product of the proximal processes, because of the developmental outcomes and transactional characteristics of both, indicating an interactive relationship between the individual and the environment (Blum, McNeely, & Nonnemaker, 2002; Masten & Obradivic, 2006).

While no evidence was found pertaining to the PPCT model being utilised specifically with regards to academic commitment, there was evidence of it being utilised successfully in a study involving academic engagement in a similar way to that of resilience (Woolley & Bowen, 2007). Choi and Tang conducted a study on

commitment and state that commitment can be described as a process involving a 'constant interplay between the personal, workplace and education systemic factors' (Choi & Tang, 2009, p. 775). Thus both resilience and (for the purpose of this exploratory study) academic commitment are conceptualised in the present study as characteristics of the person, which facilitate further and more complex proximal processes which leads to increased personal development. What follows is a graphical representation of the conceptual framework for the present study.
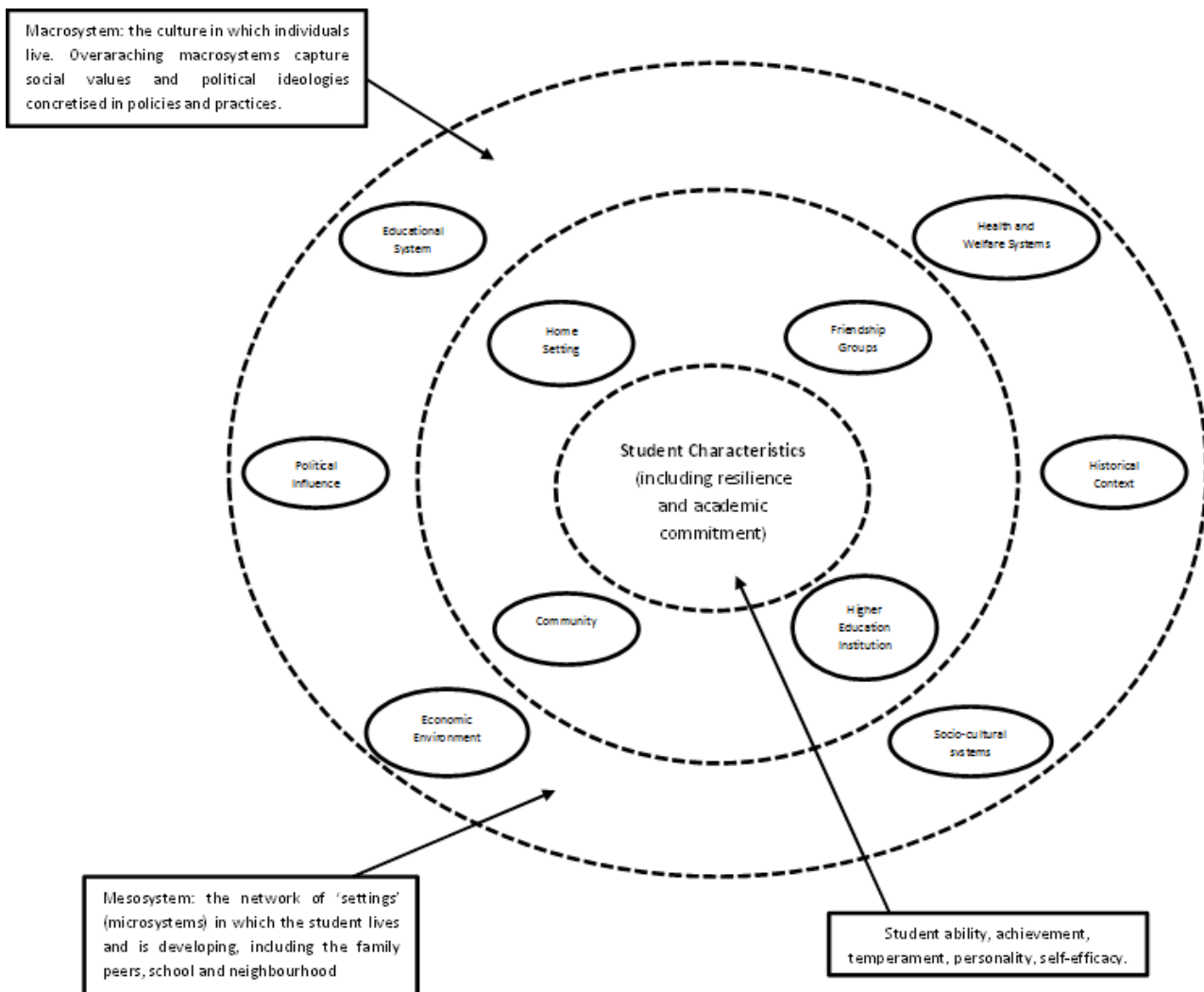
Figure 1: A graphical conceptualisation of a bioecological perspective of resilience and academic commitment

1.5   PURPOSE OF THE STUDY

Through the present exploratory pilot study, I will explore whether a relationship exists between the constructs of academic commitment and resilience, specifically with regards to higher education students.

1.6   RESEARCH QUESTIONS

1.6.1   Primary research question

Within this pilot study, I will be guided by the following primary question:

What is the relationship between academic commitment and resilience for Education students at the University of Pretoria?

1.6.2 Secondary research questions

The following secondary questions need to be explored in order to fully address the primary research question:

1. *Are Education students' demographic factors related to their level of academic commitment?*
2. *Are Education students' demographic factors related to their level of resilience?*
3. *Are students who report greater resilience more likely to report higher commitment to their studies?*

1.7   RESEARCH HYPOTHESES

A hypothesis is a statement used in quantitative research to make a prediction about the outcome of a relationship between attributes or characteristics (Creswell, 2011, p.122). I will investigate the research question primarily through the following hypotheses:

1.7.1   Null Hypothesis: H_0: $\rho_s = 0$

There is no relation between academic commitment and resilience.

1.7.2   Alternative hypothesis: H_1: $\rho_s \neq 0$

There is a relation between academic commitment and resilience.

1.8   METHODOLOGICAL APPLICATIONS

1.8.1   Paradigmatic assumptions

The present pilot study is quantitative in nature and as such I will employ a post-positivist paradigm. Post-positivism emerged as a reaction to the many criticisms of positivism with post-positivists believing that the world is ambiguous, variable and that what may be considered the truth for an individual or specific cultural group may not be the truth for another (O'Leary, 2004). As a result a phenomenon is viewed as complex, with multiple points of view and perspectives which may affect the way in which the phenomenon occurs and is documented. Thus a phenomenon under study cannot be said to be generalizable, and instead the purpose of research is to generate more complete and holistic understanding of the phenomenon (Tekin & Kotaman, 2013). As a post-positivist researcher I must assume a learning role rather than a testing one (Agar, 1988) and need to be flexible, open-minded, self-reflexive and self-critical (Tekin & Kotaman, 2013).

1.8.2   Research design

In order to know how to move forward when exploring possible relationships between variables a research design needs to be constructed (Bless & Higson-Smith, 1995). For the purpose of this study I will engage with secondary data that was gathered in a previous quantitative, cross-sectional study. Within the present study I will make use of a non-experimental, exploratory, cross-sectional correlational design. Creswell (2011, p. 356) describes that within this design the goal of the researcher is not to control or manipulate the variables (as with an experiment); instead, with the assistance of the correlation statistic, they relate two or more scores for each respondent.

The data will be organised and summarised utilising descriptive statistical procedures. Descriptive statistics do not make any inferences or predictions, but simply describe the characteristics of the sample (Cohen, Manion, & Morrison, 2007). Two main objectives of descriptive analysis are to describe the sample and to establish the distributional properties of the data. The descriptive statistical procedures used in this study includes variability (variance, standard deviations and

range) and measures of central tendency (e.g. mean, median and mode) and variability (Lune, Pumar, & Koppel, 2010; Teddlie & Tashakkori, 2009, pp. 256–257). The present exploratory study focuses on the clarification of ideas, methods and the formulation of questions aimed at informing a later, more precise study (Struwig & Stead, 2001) and does not necessarily have a prerequisite for generalisation (Babbie, 2005).

1.8.3   Data collection

1.8.3.1 Research respondents

Through the present pilot study, I utilised previously collected data that was part of an on-going study on academic commitment and motivation. The original sample frame included adults (in their first year of study) studying towards a higher education degree. Respondents were required to understand English or Afrikaans as well as be able to competently provide informed consent autonomously. The size of the original sample included 45 respondents, however after cleaning and analysing the data the sample was reduced to 32. This relatively small population size was considered sufficient for the present pilot study as correlational research can be conducted on a population as low as 30 subjects (Maree & Pietersen, 2010).

1.8.3.2 Research instruments

The data was originally collected through a single survey, comprising of two instruments, which were administered to students at the University of Pretoria, a higher education institution in South Africa. Demographic information such as age, gender, current year of study and home language was also collected. The two instruments were the Resilience Scale for Middle-adolescents in a Township School (R-MATS) and the Academic Commitment Scale (ACS). Both instruments will now be discussed in more detail.

1.8.3.2.1   *Resilience Scale for Middle-Adolescents in a Township School (R-MATS)*
The R-MATS (Mampane, 2012) is a four-point Likert-type scale comprising of 24 items which were made more appropriate for a higher education population by minimally adapting some of the original wording of the instrument. The scale

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required the respondents to evaluate themselves against each statement using values of 'truth' (i.e., True all the time; True most of the time; Untrue most of the time and Untrue all the time). Items on the scale identified four factors (Mampane, 2010) which will be discussed here more fully.

The first factor, confidence and internal locus of control, is described by Mampane (2010, p. 123) as indicating a sense of awareness of one's own strength and ability, an internal locus of control which is characterised by knowledge of one's ability and potential to achieve. The next factor, social support (Mampane, 2010, p. 124) indicates initiative of approach, assumption of responsibility and assurance of success in identifying and accessing available support and the ability to utilise it to advance one's healthy development and to achieve competence in the environment. The third factor, toughness and commitment, includes four items that indicate hardiness, a sense of commitment and orientation towards achievement and performance, and a focus on working hard in order to succeed and never giving-up (Mampane, 2010, p. 125). The fourth factor, achievement orientation, indicates the determination to take ownership in order to achieve success and affirms one's strengths (Mampane, 2010, p. 126). The R-MATS achieved an internal consistency reliability of 0.82 (Cronbach's alpha) and an item-scale correlation (0.30) for all items was observed.

1.8.3.2.2   Academic Commitment Scale (ACS)

The Academic Commitment Scale (ACS) can be described as a six-point Likert-type scale with 35 items (Human-Vogel & Rabe, 2015). It requires the respondents to evaluate themselves against each statement using values of 'agreement' (i.e., Strongly disagree; Disagree; Slightly disagree; Slightly agree; Agree; Strongly agree). Items on the scale identify four factors namely level of commitment, satisfaction, level of investment, quality of alternatives and meaningfulness.

A brief description of each factor, as described by Human-Vogel and Rabe (2015, p. 64) follows. Factor one, level of commitment (5 items), investigates the likelihood that respondents were determined to continue with their studies until finished, as

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opposed to merely giving up. Factor two, satisfaction (8 items) assesses respondent' satisfaction with their studies. Factor three, level of investment (5 items), assesses the level of investment that students had in their studies. In other words it was a representation of the time and effort that individuals had invested into their studies. Factor 4, quality of alternatives (2 items) assesses a respondent's perception of different options to studying, that is, the likelihood of them pursuing another direction other than to study. Finally factor 5, meaningfulness (9 items) was conceptualised as the extent to which students experience their academic environment as meaningful, particularly in terms of a) how their identities are shaped by their studies, b) how identity expression can strengthen student's motivation to persist with their academic studies at university level, and c) the extent to which academic studies support students' identity expression (Human-Vogel & Rabe, 2015).

Item statistics and item-total statistics indicate very good overall reliability (α = .89), with item alphas varying from .89 to .91. All the items scored well above r = .30 (majority of items > .50). All four ACS subscales displayed good internal consistency (Satisfaction α = .90; Quality of Alternatives α = .80; Investment size α= .89; and Meaningfulness α= .90).

1.8.3.3 Secondary data analysis

Within the present study, I will conduct secondary data analysis on the data which was gathered in the original study. The original data set will be analysed using the Spearman correlation coefficient to investigate the relationships between the variables on a Likert-type scale. This analysis will be conducted through an electronic data analysis package called SPSS (Statistical Products & Services Solutions). It is important to remember when doing secondary data analysis that just because a researcher were to find a statistically significant relationship it does not imply causation (cause and effect) but instead just a possible association between the variables. Results will be presented in a correlation matrix of all variables. The small sample size (n = 45) precludes more advanced statistical manipulation of the data.

1.9 ETHICAL CONSIDERATIONS

Ethical practices need to be engaged in during all steps of the research process (Creswell, 2011, p.8) as it reinforces the protection of respondents to ensure that there is no harm, or at least to lessen the possibility of discomfort, anxiety, harm, or trauma (Coup & Schneider, 2007). The original study was granted approval by the Ethics Committee of the Faculty of Education at the University of Pretoria, stipulating that all ethical concerns have been taken into consideration. The researchers in the original study obtained informed consent from respondents stipulating the goals, procedures, advantages, disadvantages, and expectations of the original study. Participation in the study was voluntary and respondents could choose to withdraw at any time. The present study falls under the same ethical clearance (provided by the Ethics Committee of the Faculty of Education at the University of Pretoria) as the original study. The present study, being a secondary analysis of existing data, did not involve interaction with respondents. However their confidentiality and anonymity must remain protected. For that reason research data regarding the original study was transferred to coded, unnamed data sheets, thus further ensuring the protection of the respondent's anonymity.

1.10 CONTRIBUTION OF THE STUDY

The potential significance of this study relates to furthering the theoretical and methodological understanding as well as the practical application value. Firstly the present pilot study will contribute towards a perceived gap in the existing literature regarding the theoretical clarification of a possible relationship between resilience and academic commitment within a higher education context. Regardless of the outcome, this pilot study will hopefully provide a basis for more extensive research on the topic. A greater understanding regarding both resilience and academic commitment will contribute to existing literature regarding factors which promote success in higher education, an area which has already been described as important areas for research (Bray et al., 1999; DeBerard, Spielmans, & Julka, 2004; Pritchard et al., 2007). The present study could also contribute to research regarding the appropriateness of utilising the Bronfenbrenner's bio-ecological approach for

conceptualising the constructs of resilience and academic commitment within a higher education context.

1.11   LIMITATIONS OF THE STUDY

Firstly the original sample of higher education students was small (n=45), reducing statistical power and thereby limiting the study's findings. Data from the original study was also collected from one location (the University of Pretoria) and at one point in time. Due to the size and uniqueness of the original sample, results of the present study will not be generalizable beyond the specific population from which the sample was drawn. It should however be noted that, as previously stated, this study is exploratory in nature and will be utilising a correlational analysis. As such the present study only seeks to conclude whether the two variables of resilience and academic commitment are related or not. No inferences can be made with regards to the way in which they are correlated.

Secondary data analysis has a distinct disadvantage in that there is no control over who was sampled, what constructs were measured, or how they were measured (Greenhoot & Dowsett, 2012). Nicoll and Beyea (1999) describe how this has the potential to reduce data accuracy and the scientific rigour of the present study as the original study's data collection instrument may not be optimal for addressing the present study's research questions and problem. A final limitation is that there is a lack of existing literature regarding a relationship between resilience and academic commitment. Thus the exploratory nature of the present study should again be emphasised.

1.12   REPORT OUTLINE

Chapter 1: Introduction, rationale, research design and chapter planning

The first chapter will contain the research topic, background information, the research question and hypotheses and rationale. This chapter will also include a discussion on the epistemology, research methodology and research design.

Chapter 2: Literature review and theoretical framework

Chapter two will consist of a literature review on academic commitment and resilience as well as the theoretical framework.

Chapter 3: Methodology

This chapter will contain an explanation of the research process which will include information regarding the research design, methodology, research question and hypothesis as well as statistical tests used to analyse the data.

Chapter 4: Discussion of results, contribution, limitations and recommendations

In chapter 4 the results obtained during data analysis will be presented.

Chapter 5: Discussion and interpretation of results, contributions and limitations

This chapter will engage in a discussion and interpretation of the findings. Results obtained in the study will be linked to the literature review conducted in chapter 2. This chapter will make connections between the findings and the research question and hypotheses. Contributions and limitations will also be discussed as well as recommendations for future research.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

My aim in the present exploratory study is to explore a possible relationship between academic commitment and resilience for Education students at the University of Pretoria in South Africa. To investigate such a relationship it is essential to have knowledge of the constructs of resilience and academic commitment, how they have been researched within an academic context, as well as existing research regarding a possible relationship between them. Thus within this chapter I aim to provide a brief discussion regarding the context of higher education and dropout, consolidate the discussion on resilience and academic commitment research, and finally provide a theoretical framework for the present exploratory pilot study.

2.2 THE CONTEXT OF HIGHER EDUCATION IN SOUTH AFRICA

2.2.1 The challenges of higher education

Higher education, like any major stressful life transition, offers the opportunity for growth (both personal and academic) as well as the possibility of leaving students more vulnerable to risk (Miller, 1996). The transition to higher education requires students to make a shift from their more sheltered and reliant high school environment towards the new relatively unfamiliar higher education academic context (Tinto, 1993; Vollrath, 2000). Put differently, students have to transition from their familiar protective resources towards a relatively unfamiliar context with an increased need for responsibility, independence and more intensive academic demands.

Valentine et al. (2011) found that many students reported not being adequately prepared and that they were struggling to achieve balance with their family, education and employment commitments. In order to adjust, higher education students need to engage with a process of re-evaluating their own identity and adapting their ways of acting within their new academic context (Lairio, Puukari, &

Kouvo, 2013) as they struggle with the fast changing and often opposing role responsibilities and demands (Pittman & Richmond, 2008).

This is an important task for a student, as the process of participating in academic life, studying towards a degree, meeting responsibilities, and forming and maintaining new social relationships places higher education students under increased pressure as they struggle with their identity formation. This struggle has the potential to incite high levels of stress (Cassidy & Trew, 2004) which has been found in existing research to contribute to high levels of psychological distress in higher education students (Eisenberg, Gollust, Golberstein, & Hefner, 2007; Surtees, Wainwright, & Pharoah, 2000). This places students at further risk for both short and long-term behavioural maladjustment (Gall, Evans, & Bellerose, 2000) and can result in the interruption of studies, students failing to achieve a level which reflects their true ability, as well as many identity related issues (Cassidy & Trew, 2004). Hu and Kuh (2002) state that those students who are unable to deal with the challenges within higher education become increasingly academically and socially disengaged with their studies (Hu & Kuh, 2002).

2.2.2   Higher education dropout and retention

The term 'dropout' has been described in the literature as the inclination (conscious and discussed) to leave the higher education institution or to end one's studies (Bean, 1985); and can occur at multiple stages while transitioning from secondary into tertiary higher education (Valentine et al., 2011). Dropout, specifically within the context of South African higher education institutions (wherein this study is based), has been reported to be at a significant level. Higher Education South Africa (HESA) (SAPA, 2008) reported a 2008 dropout rate statistic for first year higher education students in South Africa of 35%. Four years later the International Education Association of South Africa (2012) reported a dropout rate of 45% for first year higher education students in South Africa. This indicates a 10% increase, which is significant when added to the fact that a further 20% of higher education students drop out after the second or third year and that as little as 15% of those students

who enrol were found to continue with and finish their degree in the appropriate amount of time (Breier & Mabizela, 2008).

Such a large drop in student population represents a substantial monetary loss to a higher education institution, which in sub-Saharan Africa is further compounded by the loss of potential workers within developing economies, thus slowing economic growth (Pocock, 2012). Another damaging side-effect of student dropout from courses is the possibility of reputational fall-out for the institution (in large part due to the change in the higher education market towards being more focused on globalisation and competition) as a result of high student attrition and low student retention figures (Yorke & Longden, 2004). This side-effect in particular has resulted in dropout primarily being viewed from an institutional perspective, with research focusing on how institutions can retain students and possible reasons regarding why students choose not to continue (Heisserer & Parette, 2002; Pavel, Inglebret, & Banks, 2001). Such research is referred to in existing research by many names such as student attrition, retention and dropout (Heisserer & Parette, 2002; Pavel et al., 2001).

Of these, perhaps the area most researched is that of retention as higher education institutions seek to locate factors which can help them to retain students within their higher education facilities and thus prevent dropout. Factors which impact student retention have been identified as what they know before entry, how they are prepared and the processes that are in place for admission; study management, transition support and induction and; teaching, learning, curriculum development and assessment; student support (including pastoral and financial services); social engagement; and the improved use of institutional data (Crosling, Thomas, & Heagney, 2008; Jones, 2008; Tinto, 2005).

As a result of the institutional focus, a number of prominent theories emerged. The first, by Tinto (1993), outlined a longitudinal model of student dropout. Within the model Tinto (1993) suggests that the individual attributes of a student interacts with their experiences within the higher education environment to facilitate their

integration into the academic and social context. Whether or not this integration is successful can have a significant impact on students' plans for the future, goals for their academics and even their commitment to the higher education institution. For example negative consequences or experiences within the higher education institution, such as negative interactions with staff or even a lack of involvement in campus activities, may cause a student to decrease their levels of commitment to the higher education institution and possibly drop out.

A second model is that of Bean and Eaton (2000) which builds on the work of Tinto. They contend that most higher education retention models, including Tinto's (1975, 1993) have emphasised sociological theories to explain why students leave higher education. In contrast, Bean and Eaton (2000) argue that leaving higher education is a behaviour and that behaviours are psychologically motivated. According to this model students enter higher education with a set of attributes and dispositions and use these to interact with an institution (both academically and socially). It is the outcomes of these proximal processes which determine a student's commitment to an institution and thus ultimately their decision to persist and overcome their challenges. Where this model is distinctly different from that of Tinto (1993) is that it places more emphasis on the psychological processes behind the student's engagement, specifically with a focus on self-efficacy (Bandura, 1997).

The above two models demonstrate the trend in higher education research to focus on ways in which the higher education institution will be able to retain the student, rather than the student deciding to stay based on their internalised goals and actions (Bissonette, 2011). Such research has resulted in students being presented with an aspect of deficiency (Smit, 2012), and those who do not succeed being described as failing as a result of an internal shortcoming (cognitive or motivational) and external weaknesses related to the student (e.g. cultural and familial background). The terminology used contributes to this deficit discourse, and students are often referred to by what they are not; not traditional, not adequately prepared, and not in a position of advantage (Smit, 2012).

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Framing student difficulties in such a deficit mind set only perpetuates stereotypes, alienates students, and replicates what Smit (2012) refers to as the educational stratification of societies. As an alternative to the above there are authors who utilise the term 'at-risk' to describe students who have individual shortcomings which may result in them being more prone to failure or dropout. By utilising the term 'at risk', rather than dropout, it creates a very different perspective of the higher education student. Risk factors that were identified from the literature (specifically in terms of an education context) were factors such as poverty, poor schooling and limited English language proficiency (Davey, Eaker, & Walters, 2003; Davis, 1996; Levinson, Cooksen, & Sadovnik, 2002).

Within the existing literature on higher education there is evidence of students, classified as 'at risk' that persist with their studies and ultimately overcome their barriers to academic success. Conversely there is also evidence of other students, classified as 'low risk', who do not persist and do not achieve academic success. The present study thus seeks to explore constructs which influence a higher education student's ability to achieve academic success. Two processes that have been identified from the literature for the purpose of this study are that of resilience and academic commitment. Both processes focus on what enables students to persist instead of aspects which would cause them to fail. This is an important component of the present research study, as from this perspective students were resilient in their ability to adapt their goals when they realised that they were no longer able to view their current educational path as identity-congruent.

2.2.3   What enables student academic success?

Factors which enable student academic success in higher education have been described in the existing literature as an important area for current and future research (Bray et al., 1999; DeBerard et al., 2004; Pritchard et al., 2007). Factors which have been found to influence student success can include social and economic background; the reasons and processes behind the choice of study; how successful the student was prior to higher education; the educational attainment of the family; what the institution is like; and individual characteristics and attitudes of the

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students (Allen, 1999; Astin, 1993; Upcraft, Gardner, & Barefoot, 2005). Academic success in higher education involves a complex process of interplaying factors which relate to both the higher education institution as well as the individual students themselves (Mills et al., 2008; Ulriksen et al., 2010). As a result of this complexity no one factor can be solely attributed to student success in higher education (Ulriksen et al., 2010). Of specific interest to the present study are personal characteristics which promote academic success.

Student academic success, being primarily viewed from an institutional perspective, has typically been described in terms of persistence and degree attainment (Brock, 2010, p. 110); with dropout being an undesired outcome with connotations of failure and student disempowerment. However Jones-White, Radcliffe, Huesman, and Kellog (2010) question the statistics regarding success and degree attainment in higher education and describe how many traditional studies of student retention combine dropout and transfers into one category when conducting statistical analysis. The true picture of student academic success (and dropout) is distorted through the definition of success focusing on institution-specific graduation rates and thus is an underestimation of the actual rate of student academic success and degree completion (Adelman, 1999).

For the purpose of the present study student academic success will be viewed in accordance with the definition of Kuh, Kinzie, Buckley, Bridges and Hayek (2007, p. 10) who describe the success of higher education students as achievement in their academics, the engagement in activities which are educationally purposeful, the having of skills and competencies and persistence in the attainment of lesson objectives. Within this study student academic success will also be viewed as a product of proximal processes (Bronfenbrenner & Morris, 2006). These processes are engaged with over an extensive period of time and generate the skill, ability, knowledge, and to continue to involve oneself in future and more complex proximal processes. Students are seen as 'agents of change' (Bronfenbrenner & Morris, 2006) and self-regulate their beliefs about their ability according to their academic identity allowing them to essentially work harder through increased persistence and better

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performance on manual academic and intellectual activities (Brown, 1998). It is this self-regulation which allows them to regulate their behavior in order to increasingly engage with the higher education institution and ultimately achieve academic success. Within the present study the factors of self-regulation, engagement, satisfaction and identity within a higher education context will now be described more fully.

2.2.3.1 Self-regulation and higher education

The transition to higher education requires individuals to become increasingly responsible for their own achievement and well-being. Higher education students need to be able to self-regulate and guide their behaviour (consciously and unconsciously) according to what goals they want to achieve (short and long term) in relation to specific tasks (Baumeister & Vohs, 2003). Such self-regulation is described by Zimmerman (2002, p. 14) not as a mental ability or academic performance skill; but instead as "self-generated thoughts, feelings, and actions that are planned and cyclically adapted to the attainment of personal goals". Self-regulation can thus be described as a meta-cognitive process (Usher & Pajares, 2008) wherein a student explores their own thinking processes in order to evaluate the outcomes of their actions. If an action is unsuccessful a successful student would then be able to plan alternative pathways to success that are in line with their academic commitments.

A self-regulated student thus acts as an agent, proactively engaged in their own development and personally activating their academic present and future (Zimmerman, 1994). Eisenberg and Spinrad (2004, p. 338) describe such engaged students as those who "initiate, avoid, inhibit, maintain or modulate the occurrence, form, intensity, or duration of internal feeling states and motivational states". This allows them to adapt in ways which enables them to achieve their academic goals. Thus self-regulation can be described as the internal re-adjustment that students undergo to motivate them when engaging with proximal processes within the higher education micro-system. Hu and Kuh (2002) state that it is this internal self-regulation, in terms of the motivation and effort that students generate themselves despite their challenges, that is so vital to their academic success. Vallerand, Fortier

and Guay (1997) support these findings and describe how in their study they found evidence that students who dropped out of higher education were much more likely to exhibit lower levels of internal regulation. Poropat (2009) states that this is true even after controlling for the effects of intelligence.

2.2.3.2 Engagement and higher education

Prior researchers have indicated that engagement is significantly related to the central developmental contexts of the school and family (Lohman, Kaura, & Newman, 2007; Roeser & Eccles, 1998; Wang & Fredricks, 2014), particularly for those at risk for underachievement and dropout (Wexler et al., 2009). Within an academic context engagement refers to "energised, directed, and sustained action" (Reschly & Christenson, 2012, p. 24) and is the amount of time that students devote to quality educationally purposeful activities. Thus engagement can be seen as involving complex proximal processes between the student and their higher education context (which can include student organisations, faculty and other students) (Astin, 1999).

As students increasingly engage with their higher education context, they receive feedback from their academic environment which is either positive or negative. Positive feedback supports and promotes greater engagement, which can result in increased learning and scholastic success, leading to a student who feels more academically competent, connected, supported, positive and satisfied. Alternatively negative feedback would act as a deterrent towards future engagement and was found to result in less satisfaction and drive to achieve academic success. As a result engagement has been indicated in the existing literature as a robust predictor of a student's learning, grades, achievement test scores, retention, graduation and investment in learning over time (Appleton, Christenson, & Furlong, 2008; Jimerson, Campos, & Greif, 2003; Klem & Connell, 2004; Newmann, Wehlage, & Lamborn, 1992).

Pintrich (2004) further supports the view that engagement oriented behaviours are related to acts such as monitoring, controlling and regulating learner behaviours,

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particularly in respect of time and environment management, including quality of effort spent on tasks that are difficult, boring and uninteresting. Human-Vogel (2013) describes such engagement as being located at the task and achievement level of self-regulation. This reflects a state approach to self-regulation wherein regulatory behaviours such as attention and effort differ according to the limitations of the task, circumstances and level of achievement. Specifically in terms of a task orientated perspective, academic engagement refers to the ability to continue engagement with a task until completion and as such is related to self-regulation and learning goal motives (Oliver, Guerin, & Gottfried, 2007). Abandoning a goal at the task level of self-regulation is simply a matter of choosing a different, more desired goal (Human-Vogel, 2013), whereas if someone considers abandoning a commitment they typically experience significant personal distress. Human-Vogel (2013) thus argues that it is for this reason that engagement can be viewed as a consequence of commitment.

2.2.3.3   Satisfaction and higher education

Satisfaction for higher education students is described by Elliot and Healy (2001) as a short-term attitude that results from a students' self-evaluation of their experiences with the education service they receive. The level of a students' satisfaction within a higher education institution has been found to influence student persistence and was found to have a strong negative effect on student dropout intention (Suhre, Jansen, & Harskamp, 2007). In contrast, dissatisfaction and disengagement with the higher education institution would result in students who present with poor performance and many would feel marginalised, resentful, and ineffective (Reschly & Christenson, 2012).

2.2.3.4   Identity and higher education

Identity was previously considered to be stable and unified, however contemporary theory suggests that the self is constantly being re-constituted (Holstein & Gubrium, 2000; Zembylas, 2003) through a 'reflexive awareness of self' (Giddens, 1991, p. 52) and that it is shaped by the social environment (family, education institution, work, hobbies, and community) in which the individual acts (Adams, Bezonsky, & Keating,

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2006, p. 88; Markova, 2006). Specifically within a higher education context, students have been shown to experience an increased sensitivity to these interactions (Heckhausen, 2002) and shape how they view themselves, family, friends and the broader society as a whole based on their interaction within the higher education context (Tett, 2000).

A higher education student requires validation by those with whom they interact within the higher education context (Jenkins, 1996, p. 42) and uses this feedback to self-regulate their behaviour. However, when an individual receives feedback that is contrary to their own perspective regarding their identity they experience cognitive dissonance, which Galman (2009, p. 471) refers to as "the product of conflict between one or more opposing thoughts. Such dissonance may be the product of a difference between how an individual sees themselves and how others perceive them (Raffo & Hall, 2006), the result of differences between their individuals beliefs, values and expectations, the actual realities in their context (Galman, 2009; Raffo & Hall, 2006), and whether this contrasts with what they have previously experienced (Raffo & Hall, 2006).

Many higher education students experience such dissonance as they struggle with differences between their overall identity and their new higher education student identity. This is significant as high levels of cognitive dissonance have been found to negatively affect students and have been attributed to increased levels of stress and depression (Anderson et al., 2010) as well as decreases in satisfaction, feelings of belonging, agency, self-actualisation, engagement, and commitment (Murray & Kennedy-Lightsey, 2013; Pearce & Morrison, 2011) all of which places the student at increased risk for dropout. Students who experienced a severe cognitive dissonance with their higher education context and content would increasingly disengage and ultimately have to make one of three choices. Firstly they could find a way to create more congruence between their higher education context and their overall identity and exhibit resilient qualities (Pearce & Morrison, 2011); secondly they could drop out from their current higher education context and find one where the context and

content is more congruent with their own overall identity; or finally they could choose to drop out of pursuing higher education altogether.

In this sense cognitive dissonance can provide a catalyst for potential growth, learning and transformation (Mezirow, 2000). If students are able to better align their overall identity with their student identity then they will experience positive outcomes such as an increased sense of agency and empowerment (Beauchamp & Thomas, 2009), enhanced levels of resilience and coping ability when dealing with negative school experiences (Beauchamp & Thomas, 2009; Mezirow, 2000), and a higher likelihood that they will persist (Murray & Kennedy-Lightsey, 2013).

Those that are unable to achieve this congruence also have the option to seek a better alternative in terms of higher education institution. Quinn et al. (2005), when relating dropout to identity, found in their study that the majority of students who withdrew from higher education viewed the experience as a positive one. These students reported that for them dropout was a rational decision in response to a set of circumstances that made studying (within that time and place) unproductive for them, and viewed the process as a learning experience that would leave them better prepared for future study (Quinn et al., 2005).

2.3 ACADEMIC COMMITMENT

2.3.1 The development of commitment research

Reyes (1990) describes how commitment studies have typically fallen into three different phases or perspectives. The first phase, 'early exchange perspective', primarily centres on commitment to an organisation. Within this phase commitment is viewed a result of an individual's cognitive evaluation of the potential pros and cons of remaining in an organization or institution (Becker, 1960). The second phase involves studies employing a more 'psychological approach' where the focus falls on the individual employee and the psychological process involved with them identifying with the organisation. Firestone and Pennell (1993) state that studies during this second phase describe the way in which a committed individual would have strong beliefs regarding the value of the commitment object, would voluntarily comply with what was expected, actively work towards the good of the commitment

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object, and have a strong inner need to continue and be associated with the commitment object. A criticism of this phase was that it did not provide enough attention to the possible influences that the social context may have on an individual's inner mental processes.

The third phase, 'the sociological approach', attempts to address the limited focus on social influences through engaging with both the personality and social systems. In order for this to occur an acknowledgement of how the broader social historical landscape may mediate the interaction between the dynamic and often complex personal, institutional and systemic contexts (Choi & Tang, 2009, p. 768). This is an important phase in the commitment research as it defines commitment as a process which involves a 'constant interplay between the personal, workplace and education systemic factors' (Choi & Tang, 2009, p. 775). As a result of this constant interplay, different commitments become more central than others in different situations (Choi & Tang, 2009) and the intensity of such commitments also vary depending on the result of various forces in a persons' lived experiences (such as different life and career phases). The present study is situated within this third phase of commitment research, with a specific focus on how it relates to the higher education academic context.

2.3.2   Review of research regarding commitment

Le and Agnew (2003) illustrated, through their meta-analysis of fifty-two published and unpublished research studies regarding commitment, that commitment is a complex and multidimensional construct that has been thoroughly investigated and researched within an extensive range of contexts and applications. Within these studies multiple definitions of commitment were provided and while not contradictory, they place the "ties" of commitment in different locations (causing them to be independent of one another) (Burke & Reitzes, 1999). Rusbult et al. (1998) provide a broad definition of a highly committed individual as someone who will persist in their current relationships (interpersonal, organisational, or otherwise), will tend to experience more satisfaction from these relationships, and as a result invest more resources in order to perpetuate the relationships.

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The largest contribution to the commitment literature, particularly within interpersonal contexts, has been the utilisation of the investment model (Rusbult et al., 1998). Other non-relational contexts in which it has also been employed include organizational and job commitments (Farrell & Rusbult, 1981; Oliver, 1990), business interactions (Ping, 1993, 1997), commitment to residential communities (Lyons & Lowery, 1989) and even to successfully predict whether or not a medical patient will adhere to their medical regime (Putnam, Finney, Barkley, & Bonner, 1994). For the purpose of the present exploratory pilot study the investment model will not be discussed in further detail as, while it forms a departure point in terms of the development of the original survey instruments used in the original study, the present study seeks to explore commitment specifically within an academic commitment.

Burke and Reitzes (1991) view commitment from the perspective that a person is not linked to consistent behaviours, other individuals, or institutions. Instead they describe commitment as the link between an individual and a stable set of self-meanings (identity). Burke and Reitzes (1991) state that it is this connection to identity that in turn produces these apparent ties. Within this perspective the individual acts as a personal agent; which provides them with the capacity to make decisions and to self-regulate their actions and behaviours (Human-Vogel, 2013) in activities, organisations and with role partners in order to support their identity (Burke & Reitzes, 1991). It is this link to identity which results in commitments (unlike intentions, desires and policies) being characterised by their stability over time as well as their 'sensitivity to the demands of consistency and coherency because they often involve certain norms, beliefs, ideals and values' inherent to the individual (Lieberman, 1998, pp. 86, 88). Thus commitment, as a process, can be understood as involving a future orientated self-regulatory process that is associated with high level identity self-regulation (Human-Vogel, 2013; Lord, Diefendorff, Schmidt, & Hall, 2010).

2.3.3 Academic commitment and higher education

Human-Vogel (2008, p. 116) states that the research regarding the role that commitment plays in organisational management and marketing contexts (with a focus on goal commitment) is well populated; however in terms of sustainable student engagement in education settings, a more comprehensive study of substantial commitment is virtually absent. What research does exist appears to entail some debate as to what actually constitutes commitment within an academic context. Human-Vogel (2013) further states that research specifically pertaining to substantial academic commitments in higher education settings are also limited with existing studies addressing the concept of persistence in education (Lavigne et al., 2007; Vallerand et al., 1997), self-reported commitment to finishing higher education (Woosley & Shepler, 2011) and higher education institutional commitment (Braxton, Milem, & Sullivan, 2000; Sandler, 2000; Tinto, 1987).

Hellman and Williams-Miller (2005) reviewed previous attempts to measure and study commitment in education with the ultimate goal of developing an educational commitment scale. They described educational commitment as a multidimensional construct consisting of three components of psychological bond between the individual and academic setting (Hellman & Williams-Miller, 2005). The three components include affective, continuance and normative psychological bonds. Affective commitment indicates the emotional attachment that individuals have to the identity of being a college student. Those with high affective educational commitment would be more likely to behave in ways which strengthen and feed their needs and social roles. The second bond, continuance commitment, refers to an individual's perception of the cost-benefit analysis of behaving as a student in a consistent manner (e.g. attending class and studying). The third bond, normative commitment, is the conformity to one's referent group values and this can include a specific level of education or degree attainment (Hellman & Williams-Miller, 2005).

Strydom, Mentz and Kuh (2010, p. 260) describe specifically academic commitment as "students devoting their time to educationally purposeful activities". Wong (2000) concurs with this description, however Human-Vogel (2013) argues that time and effort invested into studies merely gives an indication of the extent to which the

student is actively involved in their studies and as such can be more accurately described as engagement; which she regards as a consequence of academic commitment and not academic commitment itself. For the purpose of this study, academic commitment will be understood in terms of its role in the guidance of action and enhancement of self-understanding and constitution of identity (Lieberman, 1998, p. 86) and how this in turn relates to students becoming committed to and active in succeeding with their academics.

2.4 RESILIENCE

2.4.1 The development of research on resilience

Research regarding resilience has developed considerably since its foundation in the scientific fields of medicine, psychology and education in the 1960s (Masten & Gewirtz, 2006) where it began due to the identification of commonalities in the characteristics of young individuals who had survived and continue to survive living and even thriving in high risk situations (Richardson, 2002). Antonovsky (1987) describes research regarding resilience as primarily placing emphasis on deficits and risk factors in developmental tasks. He further states that it was only later that the focus shifted towards an emphasis on resources and protective factors (individual, school and other developmental contexts, processes, and social interactions) that can facilitate positive adaptation. Within this developmental progression of resilience research, four waves have been identified in terms of how resilience has been conceptualised (Masten, 2007). The data from the original study was collected with the third wave in mind, and thus only this wave will be discussed here in more detail.

The third wave of resilience research takes the first two waves into consideration and acknowledges the presence of resilience characteristics, as well as the resilience process. This wave is characterised by efforts to promote resilience through prevention, intervention and policy which arose out of a sense of urgency regarding the welfare of children that were growing up in adverse and vulnerable situations (Masten & Obradivic, 2006). This third wave is important as it demonstrates a shift from attempting to understand how resilience develops (which was the focus of

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waves one and two) to more of a focus on what can be done within the process (Masten, 2007). In other words the focus of this wave is how resilience develops, even in the absence of significant risk (Patterson, 2002; Wilkes, 2002).

Richardson (2002) describes this third wave as involving the 'what' and 'where' of the sources of resilience. In his research he focused on the 'what' within the individual that forces one to be resilient and he was more interested in a individual's power to overcome stressors in order to conserve wellness, rather than on an overall programme (which is outside of the person). From this view it is these intervening forces that foster and motivate an individual to want to be resilient. Richardson (2002, p. 313) further states that these sources are 'equated to the force of strength or energy within individuals which compel them to self-actualise', and that the research aims to search for such strengths in order to nurture them.

In contrast, Masten and Obradović (2006, p. 14) approached the third wave of resilience research from the intervention perspective with the view that research should inform policies and programmes with the aim of promoting resilience in children and institutions that work with children. Thus their focus was on extrinsic factors (Masten, 2007) with the aim to design programmes to intervene with children in distress by providing protective factors to facilitate and support resilience. For the purpose of present study the third wave of research describes the development of resilience as involving a complex interaction (proximal process) between intrinsic factors and extrinsic (as individuals engage with other persons and environments) and protective and risk factors. It is through engaging with these proximal processes that individuals either promote or wane in terms of their resilience.

2.4.2   Review of research regarding resilience

The construct of resilience looks at how an individual behaves when confronted with adversity; specifically the flexibility of an individual to 'recoil', 'leap back', 'bounce back' to their original form of functioning prior to interaction with stressors (Masten, 2007, p. 923). Put differently, the construct of resilience can be understood as the

attainment of good developmental outcomes despite the presence of a high risk status. It is being able to keep going under severe stress and to recover from trauma (Kinard, 1998; Smith, 1999; Werner, 1995). All individuals have been found to have the capacity for resilience, and thus are defined as either more, or less-resilient.

Typically the four most common dynamics discussed within existing resilience theory include factors that place individuals at increased risk, areas of vulnerability, factors which may act as protection, and strategies that help an individual to compensate (Kitano & B, 2005). A risk factor can be described as those issues that occur within an environment which my increase the chances of a individual being in potential danger or 'at-risk'. Risk factors could include aspects such as schools which are inferior, neighbourhoods with a culture of violence, and/or neglect or a lack of adequate attention from one or both parents (Morales, 2008, p. 198) to name but a few. The second dynamic, protective factors, are strengths that a student possesses that they would use to manage any potential risk factors and can include positive relationships, an internal locus of control, a strong work ethic, a quality education, skills that develop self-esteem, and a supportive community organisation (Morales, 2008; Ungar, Brown, Liebenberg, Cheung, & Levine, 2008; Ungar, 2008). The third dynamic, vulnerability areas, are specific aspects of a student that create specific difficulties in particular situations and can include (depending on the psychosocial dynamics) gender, class, and race/ethnicity. The final most common dynamic is that of compensatory strategies, which involves a student developing tactics to prevent and manage vulnerabilities in order to obtain more positive academic outcomes (Morales, 2008, p. 198).

For the purpose of the present exploratory pilot study, Mampane and Bouwer's (2006, p. 445) updated working definition of resilience was utilised. This definition was chosen as it was used in the original study to construct the resilience data collection instrument. Their definition describes resilience as "having a disposition to identify and utilize personal capacities, competencies (strengths) and assets in a specific context when faced with perceived adverse situations". Mampane and Bouwer also continue by stating that it is the interaction between context and the

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individual which drives behaviour and that it is through the environment or context that a person gets their sustained constructive outcomes. Thus resilience can be described as context-specific (Brown, D'Emidio-Caston, & Bernard, 2001; Harvey & Delfabbro, 2004; Masten & Reed, 2005; Smith, 1999; Tusaie & Dyer, 2004; Ungar, 2008; Wilkes, 2002) with the context being seen as actively involved in shaping development (Sameroff & Seifer, 1983). Similarly a resilient individual can be considered as an active agent in their own process of resilient behaviour as they engage in a complex interplay with their contextual factors. Thus resilience research acknowledges that the individual does not exist in a vacuum but is influenced and in turn influences the environment in which they exist.

Due to this constant process of personal and collective meaning making and negotiation (depending on the context), resilience can never really be considered a steady state (Wexler et al., 2009). Instead it should be viewed as a constant process of development where an individual meets with challenges, finds a way to resolve them and then proceeds to meet new and more advanced ones. Whether an individual has the ability to cope with each new challenge is also largely dependent on their capacity to navigate towards protective resources which are culturally meaningful to them. If they are unable to do so and the challenge is too intense then the before mentioned developmental process slows and then fails altogether. Resilience is thus the capacity of individuals to continually meet challenges and use each new challenge as an opportunity for psychological growth.

2.4.3   Resilience and higher education

Resilience is often referred to in the existing literature as being significant within the learning contexts of school-age education (Bryan, 2005; Gilligan, 2000; Luthar, Cicchetti, & Becker, 2000) and has been found to develop as a result of proximal processes between the individual and education context (Lerner, 2006). However research in terms of resilience in higher education appears to be less frequent and more contested. Walker, Gleaves and Grey (2006) describe this as possibly a result of the fact that students enter the higher education context because they choose to do so and so potentially have no compulsion (intrinsic or extrinsic) to engage with the

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process of developing their resilience. Luthar (2006) argues that because resilience addresses many of the risk factors associated with higher education (through its positive effects on student outcomes, academic trajectories and psychosocial processes) it should be considered as an important competency. Stallman and Hurst (2011) agree with the importance of resilience research in higher education as they found that more than half of the higher education students in their study demonstrated with levels of stress which fell within the clinical range (in other words at a level indicative of mental health problems).

Resilience within an academic context can be defined as a student's ability to sustain their motivation, focus and academic achievement while pursuing long and demanding learning experiences, such as higher education training, even when faced with risk factors (such as difficult tasks or emotions) that normally would negatively impact a student's performance in their academics (Claxton, 2002; Gordan & Song, 1994; Masten, 1994; Morales & Trotman, 2004; Zimmerman, 2003). Higher education students who indicate resilient qualities and engage with their higher education institution proactively receive many benefits, which can include increased confidence in their own abilities, the development of supportive peer relationships, and a perception of themselves that is more congruent with their higher education environment and context (Christie & Dinham, 1991; Tinto, 1993; Upcraft et al., 2005). They are also reported as being better able to utilise their personal attributes and resources in order to persist with their higher education qualification and to better cope with any future adversity. In essence, there exists a reciprocal process where those who indicate resilient qualities continue to succeed and as a result of this success continue to become increasingly engaged (socially and academically) with higher education. Essentially this also allows them to become more involved with any educational opportunities that may lie before them.

2.5   EXPLORATION OF A POTENTIAL RELATIONSHIP BETWEEN ACADEMIC COMMITMENT AND RESILIENCE

Upon engaging with the literature regarding academic commitment and resilience, no studies were found which address the possibility of the two constructs having a

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relationship for students within any educational context, let alone specifically in higher education. Academic commitment, as viewed as identity level self-regulation, appears to have little supporting research at this time apart from the work done by Human-Vogel (Human-Vogel & Mahlangu, 2009; Human-Vogel, 2008, 2013).

There was however existing research describing relationships between commitment and resilience; however these studies primarily focused on teachers, and not on higher education students. Within these studies resilience, competence with ones emotions, and levels of personal efficacy were each found to contribute to the continued success of new teachers in their work; and were described as an aspect which potentially lead to greater commitment to their teaching as a whole (Tait, 2008). As a teachers work becomes more complex, there was evidence that they were required to exercise resilience more frequently in order to maintain their commitment and effectiveness (Day & Gu, 2007; Day & Qing, 2009). Tait (2008) further describes how resilient attitudes and responses may be valuable as predictors of the level of commitment an individual may have towards a career as a teacher.

Burke and Reitzes (1991) argue that rather than their attitude or responses; it is the level of commitment that an individual has to a particular identity that shows the extent to which resilience and persistence will occur when on a path that is congruent with that identity. This is significant as Human-Vogel's (2008) exploratory study of commitment (specifically within an academic context) suggests that commitment reflects choices individuals make in relation to their identity. Both academic commitment and resilience involve a complex interplay between intra-personal and interpersonal factors which provide individuals with a framework of meaning and experience. They also both incorporate the individual as an agent of change and involve a continual process of self-evaluation and self-regulation.

2.6   THEORETICAL FRAMEWORK

From the literature review conducted, it becomes apparent that both resilience and academic commitment are dynamic constructs which come about as a product of interactions between the individual and context. Figure 2 clarifies the theoretical

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framework for the present study, which was developed from literature on resilience and academic commitment. It encompasses predictions regarding relationships for which clarity will be obtained during the data analysis. The theoretical framework indicates various hypotheses (presented in chapter 3) of relationships between the above mentioned constructs. The framework implies that there is a positive correlation between academic commitment and resilience for Education students within the University of Pretoria and that students who experience greater academic commitment will also experience greater levels of resilience.
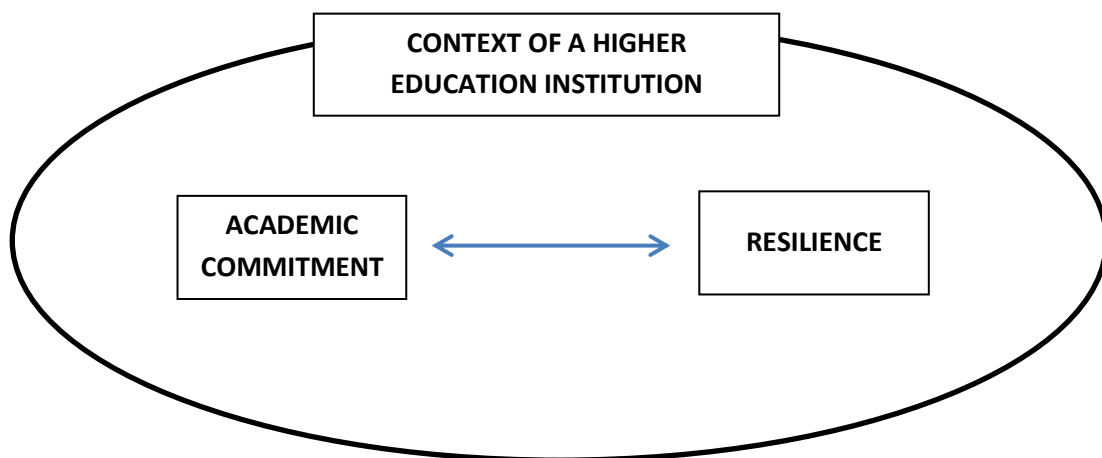
Figure 2: Graphical representation of the theoretical framework

Within this framework the context of higher education and the reciprocal interactions between the individual and their context plays a large role. Students shape their identity (how they view themselves) based on interactions within the higher education context (Tett, 2000) and self-regulate their beliefs about their ability according to their perceived academic identity. As previously mentioned, and as hypothesised in the present study, it is the commitment that a higher education student shows towards their academic identity that will indicate how resilient and persistent a higher education student will be (Burke & Reitzes, 1991).

For the present study it is hypothesised that increases in a student's level of academic commitment (a result of their academic identity being congruent with their higher education environment) will result in increases in a student's resilient behaviour. It is hypothesised that this is a result of highly committed students finding

it distressful to abandon a commitment as the commitment forms part of their academic identity. As such they would be more inclined to proactively engage with the higher education context, connect with protective resources, and develop resilient behaviours in order to flexibly adjust their context or to overcome potential risk factors in the quest to achieve their identity-level commitments. Students thus act proactively as their own agents of change (Bronfenbrenner & Morris, 2006). Conversely it is also hypothesised that students who present with lower levels of academic commitment have decreased levels of engagement, have connections with fewer protective resources, and struggle to develop resilient behaviours in order to overcome potential risk factors. As a result such students achieve less academic success, become increasingly negative and dissatisfied which could possibly result in dropout from the higher education institution.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1   INTRODUCTION

Within this chapter the different phases of enquiry that were followed in the present exploratory study will be described in order to clarify ontological principles and to strengthen the internal logic of the research procedure and results.

3.2   RESEARCH PARADIGM

The paradigmatic perspective utilised in the present exploratory study is post-positivistic. The post-positivist paradigm emerged as a reaction against the many criticisms of positivism (Ryan, 2006). While similar to the positivistic paradigm in terms of viewing science as requiring precision, logical reasoning, and attention to evidence; it also believes that it should not be confined to that which could be directly perceived (Clark, 1998). Instead Creswell (2009) describes how post-positivists view the world as holding infinite possibilities, and O'Leary (2004, p. 6) states that "what might be the truth for one person or cultural group may not be the truth for another".

As a result, whether resilience and academic commitment are related was viewed in the present exploratory study as a complex phenomenon, with multiple possible interpretations and perspectives which may affect the way in which it occurs and is documented. From this perspective the findings (with regards to higher education students at the University of Pretoria) are inherently bound to this specific context and population (Creswell, 2009). Thus the results of the study cannot be said to be universally generalizable to all cases and all situations (Brennan, Clark, & Shaver, 1998). The goal for the present exploratory research study, utilising the post-positive paradigm, is thus to instead generate an in-depth understanding of the relationship between resilience and academic commitment for this specific context (Tekin & Kotaman, 2013), with the researcher assuming a learning role rather than a testing one (Agar, 1988). As such I, as the researcher, was required to be flexible, open-minded, self-reflexive and self-critical (Tekin & Kotaman, 2013) while simultaneously

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knowing that despite this, there is an inevitability that research biases will occur to some extent (Poole & Jones, 1996; Schumacher & Gortner, 1992).

3.3   RESEARCH DESIGN

In order to conduct research effectively, an overall plan or framework is required to best embark on answering the research question through the collection and analysis of data (Babbie, 2005) and to determine the nature of possible relationships between different variables (Bless & Higson-Smith, 1995). Such a framework is referred to as a research design and within the present study I made use of an exploratory, non-experimental, correlational, quantitative design with the secondary data originally collected via a cross-sectional survey method.

The present study is exploratory in nature as I sought to explore possible relationships or correlations between resilience and academic commitment within a higher education context, without knowing whether they exist (Struwig & Stead, 2001, p. 7). In order to do this I used a non-experimental quantitative approach on secondary data that was originally collected by means of a cross-sectional survey. While the original data from the survey was for another purpose, secondary data analysis allows a researcher to address new research questions that were not part of the originally published analysis of data (Greenhoot & Dowsett, 2012). It provides a distinct advantage in that the data has already been collected, thus freeing the researcher to focus on other steps within the research process. The fact that the data has been pre-collected also brings inherent limitations in that I have no control over who was sampled, what constructs were measured, or how they were measured (Greenhoot & Dowsett, 2012). In order to improve the studies reliability and validity I thus had to spend time becoming familiar with the data set, by inspecting codebooks and all supporting information about sampling design and procedures.

Further a non-experimental approach requires the asking of specific and narrow questions in order to collect numerical data from the respondents and then analyse that data using statistical methods (Creswell, 2005). Utilising a non-experimental

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approach also entails not manipulating, controlling or interfering with the variables (Creswell, 2011; Gravetter & Forzano, 2003). A danger of this method is that there is the possibility of uncontrolled intervening variables influencing the results (S. M. Ross, Morrison, & Lowther, 2010).

3.4   RESEARCH METHODOLOGY

3.4.1   Procedure
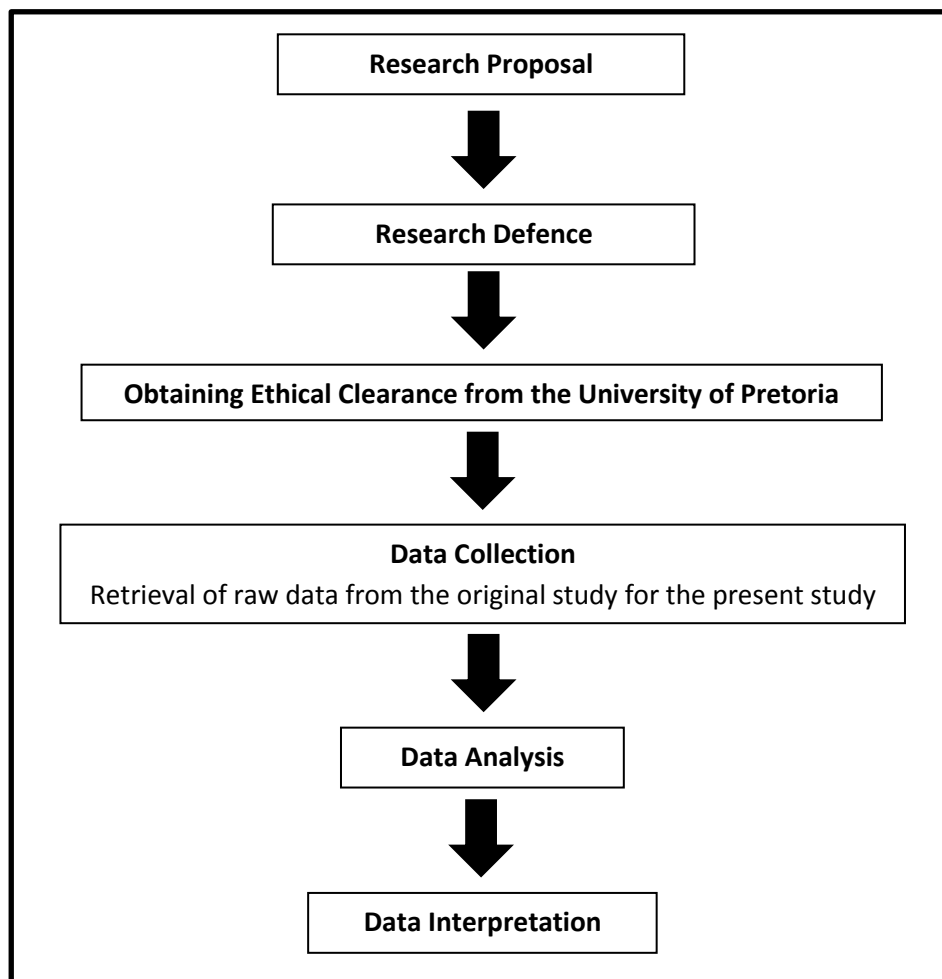
Figure 3: Summary of the research process undertaken by the researcher

Figure 3, seen above, provides a graphical representation of the research process undertaken in this study. As the study involved the secondary analysis of data already collected, the data was easily available and could be retrieved once the necessary ethical clearance certificates were obtained. Once the data was obtained, it was analysed utilising statistical procedures. The results were then able to be

interpreted and reported on. More information will now be provided regarding these processes.

3.4.1.1   The original study

The present study employs a secondary analysis of existing data that had already been collected within a previous research study by means of a survey. The original study sought to explore the relationship between commitment and resilience to find out whether students who rated themselves as resilient would also be more likely to report higher commitment to their studies. The rationale for the original study was that students who rate themselves as resilient should perceive themselves as having the resources to cope well, and would therefore be able to harness their resources in the service of their commitments.

The researchers within the original study obtained written permission to conduct their study (utilising two survey instruments; namely the R-MATS and Academic Commitment Scale) from the University of Pretoria Ethics Committee. Once permission was granted the original researchers handed over the survey packs containing a simple instruction sheet and the two above mentioned instruments to an administrator (who had agreed to distribute and administer them to the students). Participation was voluntary and students who wished to participate were required to provide their permission as well as complete a letter of informed consent (Appendix A). They were then requested to return the completed questionnaire packs to their following class where a research assistant would be waiting to receive it. The original researchers were thus able to retrieve the data.

3.4.1.2   The present study

In terms of the procedure for the present study, I first approached the researchers of the original study for access to the original data instruments and data. I then obtained written permission from the University of Pretoria Ethics Committee (Appendix B) to conduct the research, working under the same ethical clearance as the original researchers. Once I received written permission I was able to gain full

access to the original data set so that I could analyse and report on the secondary data.

3.4.2   Research setting

The original research took place at the Groenkloof campus of the University of Pretoria, South Africa.

3.4.3   Research respondents

Through the present exploratory pilot study, I utilised previously collected data that was part of an on-going study on academic commitment and motivation. The original sample frame included adults (in their first year of study) studying towards a higher education degree at the University of Pretoria, South Africa. Respondents were required to understand English or Afrikaans as well as be able to competently provide informed consent autonomously. The original sample, or portion of a specific population for the purpose of the original study (Nieuwenhuis, 2010), was identified using one-stage random cluster sampling, with a cluster being an undergraduate module. The size of the original sample included 45 respondents, however after cleaning the data only 32 respondents were deemed acceptable to continue with the analysis. This relatively small population size was considered sufficient for the present pilot study as the aim is to explore whether a possible correlation exists and such correlational research can be conducted on a population as low as 30 subjects (Maree & Pietersen, 2010).

3.4.4   Data Collection Instruments

3.4.4.1   Demographic sheet

The demographic questionnaire (Appendix C) included variables related to the constructs being studied. The questionnaire obtained information on aspects such as gender, age, home language, and current year of study. It also asked whether the student feels adequately prepared for university studies, if they consider their study management as effective, whether students set learning goals for themselves, whether they report support for their studies from their family, whether they live in a residence or commune, and finally what the average percentage is that they

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maintain in their studies. Questions were in nominal and nominal dichotomous scale formats.

3.4.4.2 Resilience Scale for Middle-Adolescents in a Township School (R-MATS)

The R-MATS (Mampane, 2012) is a four-point Likert-type scale comprising of 24 items which were made more appropriate for a higher education population by minimally adapting some of the original wording of the instrument. The scale required the respondents to evaluate themselves against each statement using values of 'truth' (i.e., True all the time; True most of the time; Untrue most of the time and Untrue all the time). Items on the scale identified four factors (Mampane, 2010) which will be discussed here more fully.

The first factor, confidence and internal locus of control, is described by Mampane (2010, 2014) as indicating a sense of awareness of one's own strength and ability. Internal locus of control is thus characterised by confidence, high expectations, knowledge of one's ability and potential to take charge and focus on goals in order to achieve (Mampane, 2014). The second factor, Social support, is indicated by the ability to identify, access (through connecting to competent people for their guidance and advice), and use support from within the environment in order to advance healthy development and to achieve competence within that same environment (Mampane, 2010, 2014). The third factor, toughness and commitment, includes four items that indicate hardiness (remaining tough in the face of adversity), a sense of commitment and orientation towards achievement and performance, and a focus on working hard in order to succeed and never giving-up (being committed to overcoming challenges (Mampane, 2010, 2014). The fourth and final factor, achievement orientation, is encouraged through extrinsic motivation and supports from significant others and indicates a strong drive to take ownership in order to achieve success and affirm one's strengths in pursuit of a bright future. (Mampane, 2010, 2014). The R-MATS achieved an internal consistency reliability of 0.82 (Cronbach's alpha) and an item-scale correlation (0.30) for all items was observed.

3.4.4.3   Academic Commitment Scale (ACS)

The Academic Commitment Scale (ACS) is an unpublished instrument. The developer of the scale (S. Human-Vogel, personal communication, 2013) describes the ACS as a six-point Likert-type scale with 35 items. It requires the respondents to evaluate themselves against each statement using values of 'agreement' (i.e., Strongly disagree; Disagree; Slightly disagree; Slightly agree; Agree; Strongly agree). Scale items identify five factors namely level of commitment, satisfaction, level of investment, the quality of alternatives, and meaningfulness in relation to the students' academics.

A brief description of each factor, as described by Human-Vogel and Rabe (2015, p. 64) follows. Factor one, level of commitment (5 items), assesses for how likely it would be that a respondent would be determined to continue with their studies until completion without dropping out. Factor two, satisfaction (8 items) assesses respondents' satisfaction with their studies. Factor three, level of investment (5 items), assesses the level of investment that students had in their studies. In other words how much time did they spend studying and what was the level of effort they have already spent. Factor 4, quality of alternatives (2 items) assesses a respondent's perception of and perhaps preference for different or alternative options other than studying in higher education. Finally factor 5, meaningfulness (9 items) was conceptualised as the extent to which students experience their academic environment as meaningful, particularly in terms of a) how their identities are shaped by their studies, b) how identity expression can strengthen student's motivation to persist with their academic studies at university level, and c) the extent to which academic studies support students' identity expression (Human-Vogel & Rabe, 2015).

Item statistics and item-total statistics indicate very good overall reliability (α = .89), with item alphas varying from .89 to .91. All the items scored well above r = .30 (majority of items > .50). All five ACS subscales displayed good internal consistency (Level of Commitment α = .83; Meaningfulness α = .90; Satisfaction α = .90; Quality of Alternatives α = .80; and Investment size α= .89).

3.5 RESEARCH QUESTIONS AND HYPOTHESES

3.5.1 Primary research question

Within this exploratory study, I will be guided by the following primary question:

What is the relationship between academic commitment and resilience for Education students at the University of Pretoria?

3.5.2 Secondary research questions

Based on this research question a number of sub-questions were identified, namely:

- *Are Education students' demographic factors related to their level of academic commitment?*

- *Are Education students' demographic factors related to their level of resilience?*

- *Are students who report greater resilience more likely to report higher commitment to their studies?*

3.5.3 Research hypotheses

When conducting quantitative research, a hypothesis is used as a statement which predicts possible relationships between characteristics and attributes (Creswell, 2011, p.122). To investigate the research question, the following hypotheses were formed about expected relationships in the data.

3.5.3.1 Hypothesis 1: Relation between academic commitment and demographic factors

Null hypothesis: $H_o : \mu_{1,2} = 0$

Subgroups (Gender, supported by family, set learning goals, adequately prepared, effectively manage studies) analysed in the present study will not differ significantly in terms of academic commitment.

Alternative hypothesis: $H_1 : \mu_{1,2} \neq 0$

Subgroups (Gender, supported by family, set learning goals, adequately prepared, effectively manage studies) analysed in the present study will differ significantly in terms of academic commitment.

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3.5.3.2 Hypothesis 2: Relation between resilience and demographic factors

Null hypothesis: $H_o : \mu_{1,2} = 0$

Subgroups (Gender, supported by family, set learning goals, adequately prepared, effectively manage studies) analysed in the present study will not differ significantly in terms of resilience.

Alternative hypothesis: $H_1 : \mu_{1,2} \neq 0$

Subgroups (Gender, supported by family, set learning goals, adequately prepared, effectively manage studies) analysed in the present study will differ significantly in terms of resilience.

3.5.3.3 Hypothesis 3: Correlations

Null hypothesis: $H_0 : \rho_s = 0$

There is no relation between academic commitment and resilience for Education students at the University of Pretoria.

Alternative hypothesis: $H_1 : \rho_s \neq 0$

There are statistically relevant relationships between academic commitment and resilience for Education students at the University of Pretoria.

3.6   DATA ANALYSIS

3.6.1   Statistical Analysis Software

I analysed the data set statistically utilising the SPSS Windows software programme to explore possible patterns in the data, and to test hypotheses about relationships. The SPSS is the most commonly used statistical data analysis software (Muijs, 2004). Data analysis involved the use of both descriptive and inferential statistics to describe the sample and potential patterns in the data.

3.6.2   Descriptive Statistical Analysis

Descriptive statistics refer to statistical methods that are used to organise and summarise data in a meaningful and visual manner and simply report what has been

found by describing a sample, rather than making inferences or predictions (Babbie, 2005; Cohen et al., 2007). Descriptive statistics were used in order to describe the various attributes of the sample (Lune et al., 2010) as the data is descriptive in nature (Cohen, Manion, & Morrison, 2009). First, frequency tables were calculated to allow the researcher to become familiar with the sample and to summarise characteristics of the sample (Teddlie & Tashakkori, 2009, 256-257). According to Cody and Smith (1997), a frequency refers to the number of respondents in a specific cell. The present study computed tables for gender, age, home language, current year of study, whether the student feels adequately prepared for university studies, if they think that they are capable of managing their studies well, if they set learning goals for themselves, if they perceive their members of their family to be supportive of their choices of study, whether they live in a residence or commune, and finally what the average percentage is that they maintain in their studies. The data will then be described utilising measures of central tendency (e.g. median, mean and mode) and variability (range, standard deviations and variance) will be calculated (Cohen et al., 2009; Lune et al., 2010; Teddlie & Tashakkori, 2009).

3.6.3   Inferential Statistical Analysis

Inferential statistics are used to make inferences about specific characteristics of the target population (Cohen et al., 2007). Inferential statistics (correlational statistics and Mann-Whitney U-test) will examine the relationships between the processes under study (Teddlie & Tashakkori, 2009, 256-260). Correlational analysis will evaluate whether the processes under study correlate significantly at the 0.05% level (Bryman, 2004). It is important to remember when doing data analysis that if a statistically significant relationship were to be found it does not necessarily immediately mean that there is a case of cause and effect (causation) but instead that there is possibly some form of association between the variables. Non-directional hypothesis testing will be conducted through the use of the Spearman's Rho. Hypothesis testing has one big disadvantage, namely one can only conclude that "there is a statistical significance" or "there is a significant correlation" at some level of confidence and does not indicate whether the finding is of any practical

significance (Pietersen & Maree, 2010). Type I (false-positive) and II (false-negative) errors will always be a potential problem in this type of research and this may in the generalizability of the findings and thus usefulness of the results to be limited.

3.7 STANDARDS OF RIGOUR

3.7.1 Reliability

Reliability involves the consistency of an instrument and focuses on whether an instrument is accurate and consistent in its claims to measure that which is says it can. The coefficient that was used in the original study to measure the internal consistency of the instruments (the degree to which items on a test correlate with one another) is referred to as Cronbach's Alpha (Knapp, 1998, p. 130). Scores closer to 1.0 indicated greater internal consistency of the items in a particular scale. Hinton, Brownlow, McMurray and Cozens (2004, p. 357) state that correlational studies require a Cronbach's Alpha of 0.7 or higher to be considered as adequate, and an Alpha of higher than 0.75 to be most reliable. As mentioned previously, the original R-MATS (Mampane, 2012) instrument achieved an internal consistency reliability of 0.82 (Cronbach's alpha) and an item-scale correlation of 0.30 for all items. The ACS (Human-Vogel & Rabe, 2015) achieved an overall reliability of 0.89 with all four of its subscales displaying good internal consistency (satisfaction 0.90; Quality of Alternatives 0.80; Investment Size 0.89; and Meaningfulness 0.90).

3.7.2 Validity

Validity can be defined as the degree to which a data collection instrument actually measures that which it claims to measure, and the extent to which that is measured accurately (De Vos, 2001, p. 166). The original data collection process is an important factor, as the way in which data was collected could influence the validity of results found within the present study. The original study collected data at one point in time utilising the services of a facilitator who ensured anonymity and a non-threatening atmosphere. The original instruments also appear to have good face validity and measure that which they claim to measure. However I must be cautious with the secondary data and assess whether the data is sufficient to address the research objectives (Tustin, Ligthelm, Martins, & Van Wyk, 2005, p.132) through a focus on

verification. Data will be engaged in a process of checking, confirming, making sure and being certain of the source and quality of the data. Through engaging with this process, I will be able to identify and correct threats to validity as they surface.

3.7.3   Ethical Considerations

Ethical practices need to be engaged in during all steps of the research process (Creswell, 2011, p.8) as measures have been put in place to protect human respondents and to ensure that any negative experiences are completely absent or reduced in order to lessen the possibility of harm, anxiety, discomfort or trauma (Coup & Schneider, 2007). Secondary data analysis brings its own unique ethical demands and as such a number of ethical issues pertaining to this study were considered and adhered to. Before data was engaged with, I sought permission from the original researchers to use the data. The original respondents also have a right to privacy and confidentiality and in order to not compromise these rights I did not have access to personal details regarding the original survey respondents. Findings from the present study will also only be used for academic purposes and may be published in an academic journal.

The Academic Commitment Scale was used to measure academic commitment (Human-Vogel & Rabe, 2015). It is adapted from the Rusbult et al. (1998) investment model of commitment scale in order to better be able to suit the academic context. For the purpose of the present study only twenty-nine items will be used which are distributed across the 5 subscales. The descriptive statistics regarding scale reliability for the ACS, as well as a comparison regarding scale reliability to an existing study which utilised the ACS with a larger sample (n = 249) are presented in Table 16.

CHAPTER 4

RESULTS

4.1 INTRODUCTION

In the present chapter, I will discuss the results obtained from the data collection phase discussed in chapter 3. Firstly, descriptive statistics were utilised in order to provide additional information regarding the demographics/attributes of the sample utilising both descriptive and frequency data. Secondly inferential statistics (including non-parametric tests such as the Mann Whitney U-tests) were used to test the hypotheses discussed in chapter 3. Correlational analysis, by means of the Spearman's Rho coefficient, was then used to provide more information regarding possible relationships between the variables of resilience and academic commitment. Analysis was conducted using the SPSS program for Windows version 22.0.

4.2 DESCRIPTIVE ANALYSIS OF THE RESPONDENTS DEMOGRAPHIC DATA

The sample for the present exploratory study was drawn by the original study from students studying within the Education faculty of a South African University, as previously mentioned in chapter 3. In the sections that follow, I present a descriptive analysis of the sample for the present study (n = 32) according to age, gender, home language, current year of study, whether they feel they are adequately prepared, whether they feel they effectively manage their studies, whether they set learning goals, live in a residence or commune or not, and what their average percentage in their studies is.

4.2.1 Age

The age distribution of the sample is presented in Table 1. The age range is a minimum of 17 to a maximum of 22 years with a mean age for respondents calculated as 18.7 years (SD = 1.16). One respondent did not indicate their age on the questionnaire.

Table 1: Age distribution with indications for sample size (n), minimum age (min), maximum age (max), mean and standard deviation (SD).

Variable	N	Min	Max	Mean	SD
Age (years)	31	17	22	18.71	1.160

4.2.2 Gender

The gender distribution of the sample is presented in Table 2. The sample consisted of 32 South African students currently studying at the University of Pretoria. This sample was found to comprise of 18 female respondents (56.3%) and 14 male respondents (43.8%).

Table 2: Gender distribution with indications for sample size (n) and frequency (%).

Gender	n	%
Male	14	43.8
Female	18	56.3
Total	32	100

4.2.3 Home language

The home language distribution is presented in Table 3. The data highlighted that Analysis of the secondary demographic data revealed that the majority of the respondents spoke English as their home language (43.8%, n = 14) with Afrikaans respondents being the second highest (31.3%, n = 10). Other home languages of respondents of the study included Sepedi (6.3%, n = 2), SiSwati (6.3%, n = 2), IsiZulu (3.1%, n = 1), Sesotho (3.1%, n = 1), Setswana (3.1%, n = 1) and Tshivenda (3.1%, n = 1).

Table 3: Home language distribution indicating sample size (n) and frequency (%).

Language	N	%
Afrikaans	10	31.3
English	14	43.8
Sepedi	2	6.3
IsiZulu	1	3.1
Sesotho	1	3.1
SiSwati	2	6.3
Setswana	1	3.1
Tshivenda	1	3.1
Total	32	100.0

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4.2.4 Current year of study

The current year of study distribution is presented in Table 4. The majority of the respondents (93.8 %, n=30) were in their first year of study, with only 6.3% (n = 2) falling in their fourth year of study. The data is thus not normally distributed and this demographic will not be explored further within this secondary study.

Table 4: Current year of study distribution indicating sample size (n) and frequency (%)

Year	N	%
1	30	93.8
4	2	6.3
Total	32	100

4.2.5 Adequately prepared

The adequately prepared distribution is presented in table 5. The majority of respondents (65.6%, n = 21) reported that they felt adequately prepared for University with 34.3% (n = 11) stating that they did not feel adequately prepared.

Table 5: Adequately prepared distribution indicating sample size (n) and frequency (%).

Adequately prepared	N	%
Yes	21	65.6
No	11	34.3
Total	32	100.0

4.2.6 Effectively manage studies

The effectively manage studies distribution is presented in table 6. The majority of respondents (56.3%, n = 18) felt that they were not able to effectively manage their studies with only 43.8% (n = 14) stating that they were able to effectively manage their studies.

Table 6: Effectively manage studies distribution indicating sample size (n) and frequency (%).

Effectively manage studies	N	%
Yes	14	43.8
No	18	56.3
Total	32	100.0

4.2.7 Set learning goals

The frequencies of the set learning goals distribution are presented in Table 7. Clearly the majority of respondents (93.8%, n = 30) felt that they were able to set learning goals with only 6.3% (n = 2) reporting that they were not able to set learning goals.

Table 7: Set learning goals distribution indicating frequency, percent, valid percent, and cumulative percent.

| | | Set learning goals | | | |
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**Yes**	30	93.8	93.8	93.8
	No	2	6.3	6.3	100
	Total	32	100.0	100.0	

4.2.8 Supported by family

The frequencies of the supported by family distribution are presented in Table 8. According to the data, the vast majority of respondents (93.8%, n = 30), felt supported by their family with only 6.3% (n = 2) stating that they did not feel supported.

Table 8: Supported by family distribution indicating frequency, percent, valid percent, and cumulative percent.

| | | Supported by family | | | |
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	30	93.8	93.8	93.8
	No	2	6.3	6.3	100
	Total	32	100.0	100.0	

4.2.9 Live in residence or commune

The live in residence or commune distribution is presented in Table 9. The majority of respondents (59.4%, n = 19) were found to live in a residence or commune while 40.6% (n = 13) reported that they do not.

Table 9: Live in residence or commune indicating sample size (n) and frequency (%).

Live in residence or commune	N	%
Yes	19	59.4
No	13	40.6
Total	32	100.0

4.2.10 Average percentage in studies

The average percentage in studies distribution is presented in Table 10. It should be noted that the secondary data regarding average percentage cannot be considered as objective data as it was self-reported by survey respondents. The participants reported an average mean of 53.8% (standard deviation = 7.83), with minimum/maximum ranging from 40% to 75%. Two respondents did not indicate their average percentage on their questionnaires.

Table 10: Average percentage in studies distribution indicating sample size (n), minimum average (min), maximum average (max), mean and standard deviation (SD).

Variable	N	Min	Max	Mean	SD
Average percentage in studies	30	40	75	53.8	7.83

Next, I assessed the reliability of both the R-MATS and the ACS in the study. Reliability was assessed using item analysis and internal consistency procedures, as described in chapter 3. Reliabilities for the scales utilised in the present exploratory study will now be discussed through the use of descriptive statistics and then compared to the reliability results for the existing studies.

4.3 DESCRIPTIVE ANALYSIS OF SCALES

4.3.1   Reliability analysis of the Academic commitment scale (ACS)

In order to determine reliability and internal consistency, the results from the present study were analysed and compared to the results from the existing study which used the ACS with Education students in a much larger sample (n = 249) (Human-Vogel & Rabe, 2015). The results of this comparison for the ACS are presented in Table 11 followed by a brief description:

Table 11: ACS full scale and subscale Alpha coefficients comparisons between the existing study which utilised the ACS and the present study.

Scale Description	Existing study (Human-Vogel & Rabe, 2015)		Present study	
	Number of items	Cronbach's alpha	Number of items	Cronbach's alpha
Full scale	44	.87	29	.893
Level of commitment	5	.830	5	.949
Satisfaction	8	.900	7	.941
Investment	5	.890	5	.920
Quality of alternatives	3	.800	3	.609
Meaningfulness	9	.900	9	.830

The Academic Commitment Scale in the present study can be considered highly reliable with a Cronbach's Alpha score of .893 (n = 29) for the full scale. The alpha coefficient for the subscales of the present study was mixed with Satisfaction (α = .941, n = 31), Level of Commitment (α = .949, n = 32) and Investment (α = .920, n = 31) being very highly reliable, Meaningfulness as highly reliable (α = .830, n = 31), and Quality of Alternatives (α = .609, n = 32) scoring significantly lower and thus being marginally reliable. This compares favourably to the existing study completed by Human-Vogel and Rabe (2015) which recorded a similar overall reliability of 0.89 for the instrument, and subscale scores (Level of Commitment, α = 0.83; Satisfaction α = 0.90; Investment Size α = 0.89; and Meaningfulness α = 0.90). The only exception being the Quality of Alternatives scale which in the present study saw a significant drop in reliability when compared to the Quality of Alternatives Alpha score (0.80) in the existing Human-Vogel and Rabe (2015) study and the other scales on the full scale. Thus for the present study, the properties of the scales were considered adequate to investigate my hypotheses, with the exception of the Quality of Alternatives subscale, which should be interpreted with caution.

4.3.2 Reliability analysis of the Resilience scale for middle-adolescents in a township school (R-MATS)

In order to determine reliability and internal consistency the results from the present study were analysed and compared to the results from the existing study which used

the R-MATS with middle-adolescent students in a much larger sample (n = 291) (Mampane, 2012). The Cronbach alpha (Cohen et al., 2007, p. 506) provides correlation of each item with the sum of all the other items. It provides a measure of internal consistency among the items (not the people). The results of this comparison for the R-MATS is presented in Table 12 followed by a brief description:

Table 12: R-MATS full scale and subscale Alpha coefficient comparisons between existing and present study.

Scale Description	Existing study (Mampane, 2012)		Present study	
	Number of items	Cronbach's alpha	Number of items	Cronbach's alpha
Full scale	24	0.82	24	.877
Achievement Orientation subscale	4	-	4	.437
Confidence and Internal Locus of Control subscale	8	-	8	.648
Social Support subscale	6	-	6	.706
Toughness and Commitment subscale	6	-	6	.606

The reliability for the R-MATS in the present study was good with the Cronbach's Alpha for the full scale as .877 (n = 30). This compares well to the existing study which also utilised the R-MATS on a much larger sample (n = 291) and achieved a full scale Cronbach's Alpha of .82 (Mampane, 2012). A limitation of the existing study is that Cronbach's Alpha was never calculated for the individual subscales, and thus no subscale comparisons could be made. The present study's data analysis describes the alpha coefficient for the subscales as lower than the full scale; with Achievement Orientation subscale scoring an unacceptably low reliability (α = .437, n = 32); Confidence and Internal Locus of Control subscale scoring a marginally reliable (α = .648, N = 32); Social Support subscale scoring reliable (α = .706, n = 31); and the Toughness and Commitment subscale scoring marginally reliable (α = .606, n =31).

As discussed in chapter 3, Hinton, Brownlow, McMurray and Cozens (2004, p. 357) state that in order to conduct correlational studies, a Cronbach's Alpha of at least 0.7 is required. Analyses based on the subscale scores should thus be interpreted with

caution, however the properties of the scales were considered as adequate to investigate the hypotheses.

4.4 DISTRIBUTION OF SCALE SCORES

Descriptive statistics (in terms of the scale mean, 5% trimmed mean, 95% confidence interval, kurtosis and skewness values) were used to assess the distribution of the scores on the ACS and the R-MATS in the present study. Descriptive statistics are presented in Table 13 below.

Table 13: Descriptive statistics of the ACS and R-MATS

		Academic Commitment					Resilience			
		CM	CS	CQ	CI	CL	RA	RC	RS	RT
Valid N		31	32	32	31	32	32	32	31	31
Mean		4.47	4.46	4.42	4.63	5.56	3.45	3.41	3.07	3.47
95% Confidence interval	Lower Bound	4.21	4.03	4.07	4.26	5.23	3.30	3.27	2.88	3.32
	Upper Bound	4.72	4.89	4.76	5.00	5.88	3.59	3.55	3.26	3.62
5% Trimmed mean		4.47	4.56	4.41	4.68	5.70	3.47	3.43	3.09	3.48
Median		4.33	4.86	4.50	4.80	5.80	3.50	3.38	3.17	3.50
Variance		.483	1.363	.918	1.019	.794	.152	.152	.274	.164
SD		.695	1.167	.958	1.009	.891	.390	.390	.523	.405
Skewness		.211	-1.394	-.015	-.592	-4.578	-1.677	-.662	-.499	-.326
Kurtosis		-.489	2.054	-1.141	-.428	23.488	4.860	1.407	.076	-.976

CM – Meaningfulness, CS – Satisfaction, CQ – Quality of Alternatives, - CI – Investment Size, CL – Commitment Level, RA – Achievement Orientation, RC – Confidence and Internal Locus of Control, RS – Social Support, RT – Toughness and Commitment.

From the data above there is evidence that the scores on the ACS and the R-MATS were not normally distributed, a common occurrence for studies utilising such a small sample size (n = 32). The mean and 5% trimmed mean values of the various subscales all appear to be fairly similar and within the 95% confidence interval boundaries. This indicates that possible outliers did not negatively impact the distribution of the data. Seven of the nine subscales are also negatively skewed. The histograms of each subscale of the ACS and R-MATS were visually inspected to assess

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for shape and distribution (Appendix E) as part of a preliminary analysis. Scatterplots were also used to visually inspect whether a linear relationship existed between the variables (see Appendix D).

Similar to the findings of Human-Vogel and Rabe (2015), the distribution on the Commitment Level subscale was particularly problematic. However even though the graphical methods are useful for checking for normality, the graphs are still not sufficient enough to provide conclusive evidence that the normal assumption holds (Razali & Wah, 2011). Based on the histograms I then decided to also conduct the Shapiro-Wilk test to assess the normality of the distribution of scale scores in the present study. This test was chosen due to its ability to test small sample sizes (Shapiro & Wilk, 1965) and because of its good power properties (Mendes & Pala, 2003). The results are presented in Table 14.

Table 14: Results of the Shapiro-Wilk test for normality of the distribution of subscale scores for the ACS and R-MATS

	Statistic	df	Sig.
ACS Subscales			
Satisfaction	.870	29	.002
Level of Commitment	.462	29	< .001
Meaningfulness	.971	29	.598
Investment	.927	29	.047
Quality of Alternatives	.925	29	.040
R-MATS Subscales			
Achievement Orientation	.834	30	< .001
Confidence and Internal Locus of Control	.912	30	.016
Social Support	.969	30	.509
Toughness and Commitment	.926	30	.039

The data presented in Table 14 shows that only the Meaningfulness subscale of the ACS (*df* = 29, ρ = .598) and the Social Support subscale of the R-MATS (*df* = 30, ρ = .509) did not have a significant score, indicating that these two were the only ones to have a normal distribution. Based on these results I decided to use non-parametric statistics to examine the differences between groups. The non-parametric Spearman's rho was used to explore possible correlations between the scales, and

the Mann Whitney U test was used to measure differences in the means of two groups.

4.5 CORRELATION ANALYSIS

4.5.1 Introduction

Hypotheses were formulated in relation to the primary research question to test the linear relationship between two variables in the study, namely resilience and academic commitment.

4.5.1.1 Null hypothesis: $H_0 : \rho_s = 0$

There is no relationship between resilience and academic commitment

4.5.1.2 Alternative hypothesis: $H_1 : \rho_s \neq 0$

There are statistically significant relationships between resilience and academic commitment.

A correlational analysis was completed in order to investigate this set of hypotheses relating to a possible relationship between resilience and academic commitment. Firstly, the Spearman rank order correlation coefficient (Rho) was calculated to explore possible inter-correlations between the subscales of the R-MATS and the ACS. Secondly it was used to explore possible correlations between the full scales. The Spearman (a non-parametric method) was used as it makes no assumptions about the distribution between two variables and utilises ranks instead of the actual values (Maree & Pietersen, 2007). The Spearman coefficient is also particularly well-suited in research where sample sizes are small.

Table 15 displays the Spearman Rho inter-correlations and correlations between the Resilience full-scale, the Academic Commitment full-scale, as well as the subscales

Table 15: Spearman Rho correlations for ACS and R-MATS total scales and subscales.

			RTot	ACTot	AO	CI	SS	TC	S	QA	I	M	LC
RTot	Correlation Coefficient		1.000	.341	.783**	.823**	.949**	.804**	.270	.113	.229	.256	.064
	Sig. (2-tailed)		.	.081	.000	.000	.000	.000	.172	.575	.251	.198	.750
	N		27	27	27	27	27	27	27	27	27	27	27
	Bootstrap^c Bias		.000	.004	-.010	-.012	-.011	-.016	.000	-.005	-.001	-.005	.005
	Std. Error		.000	.210	.102	.096	.030	.084	.210	.234	.206	.193	.221
	95%	Lower	1.000	-.074	.543	.571	.859	.598	-.162	-.375	-.186	-.169	-.360
	Confidence Interval	Upper	1.000	.740	.930	.948	.982	.914	.653	.556	.627	.587	.509
ACTot	Correlation Coefficient			1.000	.400*	.248	.281	.329	.826**	.081	.665**	.633**	.601**
	Sig. (2-tailed)			.	.039	.212	.155	.094	.000	.687	.000	.000	.001
	N			27	27	27	27	27	27	27	27	27	27
	Bootstrap^c Bias			.000	-.001	.003	.009	.005	-.018	-.008	-.022	-.015	-.017
	Std. Error			.000	.187	.218	.218	.194	.087	.218	.133	.149	.144
	95%	Lower		1.000	-.020	-.198	-.150	-.074	.593	-.358	.332	.267	.264
	Confidence Interval	Upper		1.000	.729	.652	.702	.688	.928	.487	.860	.843	.818
AO	Correlation Coefficient				1.000	.633**	.731**	.521**	.308	.117	.294	.476*	.134
	Sig. (2-tailed)				.	.000	.000	.005	.118	.560	.136	.012	.504
	N				27	27	27	27	27	27	27	27	27
	Bootstrap^c Bias				.000	-.010	-.010	-.009	-.003	-.010	-.005	-.012	.001
	Std. Error				.000	.150	.109	.157	.193	.210	.197	.135	.194
	95%	Lower			1.000	.283	.470	.163	-.107	-.301	-.142	.176	-.240
	Confidence Interval	Upper			1.000	.855	.898	.773	.640	.514	.639	.706	.512
CI	Correlation Coefficient					1.000	.701**	.527**	.202	.043	.160	.242	.119
	Sig. (2-tailed)					.	.000	.005	.313	.832	.425	.224	.554
	N					27	27	27	27	27	27	27	27
	Bootstrap^c Bias					.000	-.016	-.011	-.004	.000	-.001	-.007	.002
	Std. Error					.000	.123	.162	.228	.233	.212	.205	.204
	95%	Lower				1.000	.400	.134	-.279	-.410	-.305	-.189	-.287
	Confidence Interval	Upper				1.000	.877	.768	.613	.545	.571	.624	.530
SS	Correlation Coefficient						1.000	.727**	.209	.126	.239	.196	-.049
	Sig. (2-tailed)						.	.000	.295	.532	.230	.326	.806
	N						27	27	27	27	27	27	27
	Bootstrap^c Bias						.000	-.017	.008	-.005	.000	-.004	.009
	Std. Error						.000	.111	.216	.241	.197	.179	.229
	95%	Lower					1.000	.461	-.206	-.342	-.171	-.208	-.481
	Confidence Interval	Upper					1.000	.896	.627	.579	.603	.505	.420
TC	Correlation Coefficient							1.000	.244	.102	.265	.205	.036
	Sig. (2-tailed)							.	.219	.613	.181	.305	.859
	N							27	27	27	27	27	27
	Bootstrap^c Bias							.000	.004	-.011	-.001	.000	.008
	Std. Error							.000	.202	.202	.200	.194	.227
	95% Confidence Interval	Lower						1.000	-.163	-.328	-.125	-.178	-.396

				S	QA	I	M	LC
		Upper	1.000	.615	.463	.641	.554	.499
S	Correlation Coefficient			1.000	.057	**.481**[*]	.337	.455[*]
	Sig. (2-tailed)			.	.776	.011	.086	.017
	N			27	27	27	27	27
	Bootstrap[c]	Bias		.000	-.012	-.014	-.015	-.019
		Std. Error		.000	.203	.160	.191	.168
		95% Confidence Interval	Lower	1.000	-.362	.122	-.117	.065
			Upper	1.000	.428	.745	.660	.721
QA	Correlation Coefficient				1.000	-.317	.284	-.236
	Sig. (2-tailed)				.	.108	.151	.235
	N				27	27	27	27
	Bootstrap[c]	Bias			.000	-.007	-.009	-.001
		Std. Error			.000	.214	.181	.223
		95% Confidence Interval	Lower		1.000	-.718	-.110	-.655
			Upper		1.000	.127	.597	.195
I	Correlation Coefficient					1.000	.296	**.443**[*]
	Sig. (2-tailed)					.	.134	.021
	N					27	27	27
	Bootstrap[c]	Bias				.000	-.015	-.012
		Std. Error				.000	.195	.174
		95% Confidence Interval	Lower			1.000	-.118	.050
			Upper			1.000	.657	.733
M	Correlation Coefficient						1.000	.329
	Sig. (2-tailed)						.	.094
	N						27	27
	Bootstrap[c]	Bias					.000	-.013
		Std. Error					.000	.171
		95% Confidence Interval	Lower				1.000	-.023
			Upper				1.000	.625
LC	Correlation Coefficient							1.000
	Sig. (2-tailed)							.
	N							27
	Bootstrap[c]	Bias						.000
		Std. Error						.000
		95% Confidence Interval	Lower					1.000
			Upper					1.000

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

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

for both namely; achievement orientation (AO), confidence and internal locus of control (CI), social support (SS), toughness and commitment (TC); and the ACS scales of satisfaction (S), quality of alternatives (QA), investment (I), meaningfulness (M), and level of commitment (LC). Graphical representation of these correlations can be found in Appendix G

4.5.2 Intra-correlations for ACS and R-MATS full and subscales

4.5.2.1 Intra-correlations – Full Scale

The intra-correlations between the ACS total scale and the ACS subscales can be seen in Table 15. Within the ACS only one strong significant positive correlation was found and this was between the ACS total scale and the satisfaction subscale of the ACS ($r = .826$, $p = < .001$). There were however moderately significant positive correlations between the ACS total scale and the achievement orientation (AO) subscale ($r = .400$, $p = .039$), the investment (I) subscale ($r = .665$, $p = < .001$), the meaningfulness (M) subscale ($r = .633$, $p = < .001$) and the levels of commitment subscale (LC) ($r = .601$, $p = .001$).

Table 15 also indicates that the vast majority of the correlations (except for the one inter-correlation which will be discussed in 4.5.3) were intra-correlations (correlations occurring between subscales within the same full scale). Within the R-MATS a strong significant positive correlation was found between the R-MATS total scale and the following R-MATS subscales: achievement orientation subscale ($r = .713$, $p = < .001$.), confidence and internal locus of control subscale ($r = .823$, $p = < .001$), social support subscale ($r = .949$, $p = < .001$), and the toughness and commitment subscale ($r = .804$, $p = < .001$).

4.5.2.2 Intra-correlation subscales

When investigating intra-correlations between the R-MATS subscales, the following was found. The achievement orientation (AO) subscale had a strong significant positive correlation to the social support (SS) subscale ($r = .731$, $p = < .001$). The social support (SS) subscale had a strong correlation to the toughness and commitment (TC) subscale ($r = .727$, $p = < .001$). A moderately significant positive

correlation was also found between the subscales of achievement orientation (AO) and confidence and internal locus of control (CI) (r = .633, p = < .001), and the toughness and commitment (TC) subscale (r = .521, p = .521). The confidence and internal locus of control (CI) subscale had a strong positive correlation to both the social support (SS) subscale (r = .701, p = < .001) and the toughness and commitment (TC) subscale (r = .527, p = .005).

When investigating intra-correlations between the ACS subscales, Table 15 also indicated the following. Only the investment (I) subscale was found to have a moderately significant correlation to the satisfaction (s) subscale (r = .481, p = .011) as well as the level of commitment (LC) subscale (r = .443, p = .021). This was contrary to the results of the existing study conducted by Human-Vogel and Rabe (2015) in that none of the correlations they identified are present.

4.5.3 Inter-correlations for ACS and R-MATS full and subscales

4.5.3.1   Inter-correlations – Full Scale

There were no significant full scale inter-correlations found between Academic Commitment and Resilience.

Inter-correlations (or correlations between subscales from different total scales) were sparse with only a moderately significant positive correlation found between the achievement orientation (AO) subscale of the R-MATS and the meaningfulness (M) subscale of the ACS (r = .476, p = 0.012). No correlations were found between Academic Commitment and Resilience.

4.6 SUBGROUP ANALYSIS

4.6.1 Introduction

The subgroups analyses targeted the secondary research question of the present study, namely "Are student's demographic factors related to their level of academic commitment or resilience?". Due to the small sample size and scores which are not normally distributed (see appendix D for scatterplot) the non-parametric independent samples Mann-Whitney U test (Pallant, 2011) was used. Mean ranks for

a number of factors (such as gender, feeling supported by family, the ability to set learning goals, being adequately prepared, and effectively managing your studies) were compared to both subscales and fullscales of the ACS and R-MATS in order to test the hypotheses.

Two categories of the demographic data were removed from the data analysis due to poor distribution scores; namely the ability to set learning goals, and to what extent respondents felt that their families were supporting them. Scores were also compared to existing studies for subscales and fullscales of academic commitment and resilience. A cautionary note should be made however in that the small valid sample size will have an influence on these results (Maree & Pietersen, 2007). The following null and alternative hypotheses were investigated through examining test statistics to determine whether a significant different existed (z and ρ values).

4.6.1.1 Null hypothesis : $H_o : \mu_{1,2} = 0$
Subgroups (Gender, supported by family, set learning goals, adequately prepared, effectively manage studies) analysed in the present study will not differ significantly in terms of resilience and academic commitment.

4.6.1.2 Alternative hypothesis : $H_1 : \mu_{1,2} \neq 0$
Subgroups (Gender, supported by family, set learning goals, adequately prepared, effectively manage studies) analysed in the study will differ significantly in terms of resilience and academic commitment.

4.6.2 Analysis of subscales
4.6.2.1 Gender

In terms of Level of Commitment, Meaningfulness, Investment, Quality of Alternatives, Satisfaction, Toughness and Commitment, Social support and Achievement Orientation, no gender differences were observed (as shown below in Table 16) and so the null hypothesis was retained for these variables. Significant differences between men and woman were recorded for Confidence and Internal Locus of Control (z = -2.858, ρ = .004) and thus the null hypothesis was rejected in

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favour of the alternative hypothesis. Women were found to have reported higher mean test scores for Confidence and Internal Locus of Control.

Table 16 - Test statistics of gender differences

	Mann-Whitney U	Wilcoxen W	Z	Asymp. Sig. (2-tailed)
Level of commitment	107.500	212.500	-.730	.466
Meaningfulness	98.000	212.500	-.730	.466
Investment	115.500	286.500	-.060	.952
Quality of alternatives	117.000	288.000	-.344	.731
Satisfaction	104.500	275.500	-.503	.615
Toughness and commitment	84.500	237.500	-1.383	.167
Social support	98.000	251.000	-.840	.401
Confidence and internal locus of control	51.500	222.500	-2.858	.004
Achievement orientation	101.000	272.000	-984	.325

4.6.2.2 Adequately prepared

Significant differences were found between those who felt adequately prepared for their studies versus those who did not for Toughness and Commitment (z = -2.966, ρ = .003), Social Support (z = -3.022, ρ = .003), and Confidence and Internal Locus of Control (z = -3.226, ρ = .001) as shown below in Table 17. Thus students who felt that they were adequately prepared for university scored significantly higher means for Toughness and Commitment, Social Support, and Confidence and Internal Locus of Control. Mean ranks for being adequately prepared for University are presented in Appendix F. This contrasts with the results of Human-Vogel and Rabe (2015) who found significant differences for satisfaction (z = -3.64, ρ = < .001) and Level of Commitment (z = -2.21, ρ = .027).

Table 17 - Test statistics of adequately prepared

	Mann-Whitney U	Wilcoxen W	Z	Asymp. Sig. (2-tailed)
Level of commitment	112.000	178.000	-.144	.885
Meaningfulness	70.500	125.500	-1.462	.144
Investment	110.000	176.000	.000	1.000
Quality of alternatives	95.500	161.500	-.799	.424
Satisfaction	75.500	141.500	-1.432	.152
Toughness and commitment	35.500	90.500	-2.966	.003
Social support	34.000	89.000	-3.022	.003
Confidence and internal locus of control	35.000	101.000	-3.226	.001
Achievement orientation	70.500	136.500	-1.849	.054

4.6.3 Effectively manage studies

Significant differences were found between those who felt they effectively manage their studies versus those who do not for Confidence and Internal Locus of Control (z = -2.245, ρ = .025), as shown in Table 18 below. Respondents who felt they effectively managed their studies reported higher means for Confidence and Internal Locus of Control. Mean ranks for effectively manage studies are presented in (Appendix F)

Specifically in terms of the subscales of the ACS, the present study found no significant differences. This is contrary to Human-Vogel and Rabe (2015) who found significant differences between those who are and are not able to manage their studies effectively in terms of Meaningfulness (z = -3.48, ρ < .001), Satisfaction (z = -4.76, ρ < .001) and Commitment level (Z = 2.22, ρ = .026).

Table 18 - Test statistics of effectively manage studies

	Mann-Whitney U	Wilcoxen W	Z	Asymp. Sig. (2-tailed)
Level of commitment	112.000	217.000	-.552	.581
Meaningfulness	110.000	215.000	-.358	.720
Investment	117.000	222.000	-.080	.936
Quality of alternatives	114.000	219.000	-.459	.646
Satisfaction	104.000	195.000	-.523	.601
Toughness and commitment	87.000	258.000	-1.213	.225
Social support	71.500	224.500	-1.899	.058
Confidence and internal locus of control	67.500	238.500	-2.245	.025
Achievement orientation	83.500	254.500	-1.672	.094

4.6.4 Analysis of Full-scales

4.6.4.1 Resilience

No significant differences were found between groups for gender, see table 19, (U = 73.000, p = .104), and those students who feel they effectively manage their studies (U = 68.500, p = .078). The distribution for Resilience is thus not statistically different for these subgroups and the null hypotheses can be retained. There was however a significant difference in the distribution for resilience between the groups in terms of feeling adequately prepared for studies (U = 22.000, p = .001). Those who answered yes for being adequately prepared had on average a higher mean rank for resilience.

Thus the null hypothesis can be rejected as students who felt adequately prepared were also more likely to report higher levels of resilience.

Table 19: Mann-Whitney U-test values for Resilience and demographic data (valid n = 30).

	Groups	N	Mean rank	U	P (.05)
Gender	Male	14	18.29	73.000	.104
	Female	16	13.06		
Adequately prepared	Yes	21	18.95	22.000	.001
	No	9	7.44		
Effectively manage studies	Yes	13	18.73	68.500	.078
	No	17	13.03		

4.6.4.2   Academic Commitment

As seen in Table 20, there are no significant differences between the distribution for academic commitment between the groups for gender (U = 97.500, p = .842), feeling adequately prepared (U = 64.500, p = .161), and those students who effectively manage their studies (U = 97.500, p = .775). The distribution for Academic Commitment is thus not statistically different for the different groups and the null hypotheses can be retained.

Table 20: Mann-Whitney U-test values for Academic Commitment and demographic data.

	Groups	N	Mean rank	*U*	*P*
Gender	Male	12	14.63	97.500	.842
	Female	17	15.26		
Adequately prepared	Yes	19	16.61	64.500	.161
	No	10	11.95		
Effectively manage studies	Yes	13	14.50	97.500	.775
	No	16	15.41		

4.7 CONCLUSION

In this chapter the results were obtained from the secondary data sources that were discussed. Through the use of descriptive statistics a large majority of the students (93.9%) were found to be in their first year of study at the time the data was collected. The data also indicates that the respondents are fairly equally distributed with 18 female respondents and 14 male respondents in the study. The mean age for

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female students is 18, and for the boys it is 19. The majority of the students report that they felt fully prepared for the start of University; however they also report not being able to manage their studies correctly. A large difference in the distribution for resilience (between the groups of feeling adequately prepared for studies) indicated that when a student reported feeling more prepared for their higher education studies, they would also record higher on the factors testing for resilience.

Expectations for the present study included the possibility of numerous Spearman Rho inter-correlations within and between the subscales of the ACS and R-MATS. This was found to be true with multiple significant correlations, especially when considering the subtest correlations for the R-MATS. The quality of alternative subscale was not found to be significantly correlated to any other subscale or fullscale in either of the original data collection instruments.

The second expectation was for there to be numerous correlations between the subscales of the ACS and the R-MATS, however only achievement orientation of the ACS could be significantly correlated with the meaningfulness subscale and fullscale of the ACS. Most surprising was a complete lack of significant correlation between the fullscales of Resilience and Academic Commitment. Conclusions, based on the discussion of results, as well as contributions, limitations and recommendations for future research will be discussed in chapter 5.

CHAPTER 5

DISCUSSION AND INTERPRETATION OF RESULTS, CONTRIBUTIONS AND LIMITATIONS

5.1 INTRODUCTION AND SUMMARY

In the present exploratory study of secondary data, a possible relation between Education students' academic commitment and resilience was explored within the microsystem of the University of Pretoria. The present study was formulated primarily as a response to limited existing research exploring possible relations between academic commitment and resilience within higher education. Utilising Bronfenbrenner's Person Process Context Time (PPCT) model, the development of both Academic Commitment and Resilience is framed in the present study as a function of proximal processes between the person and their context over time (Bronfenbrenner & Morris, 2006, 1998). Such a conceptual framework emphasises the view of respondents as 'agents of change' (Bronfenbrenner & Morris, 2006) who are responsible for self-regulating their own academic identities and proactively engaging in their own development (Zimmerman, 1994) and thus academic success.

The primary objective of the present study was to investigate a possible relationship between academic commitment and resilience and was guided by the following primary research question and five sub-questions:

Primary question

What is the relationship between academic commitment and resilience for Education students at the University of Pretoria?

Subquestions:

1. *Are Education students' demographic factors related to their level of academic commitment?*

2. *Are Education students' demographic factors related to their level of resilience?*

3. Are students who report greater resilience more likely to report higher commitment to their studies?

I approached the present study from an exploratory, non-experimental quantitative approach through the formulation of two hypotheses that link to the five sub-questions of the present study. The sample was established, in the existing study, utilising one-stage random cluster sampling, with a cluster being an undergraduate module. The original data was collected through the use of a survey containing a demographic questionnaire, an adapted Resilience Scale for Middle Adolescent Students (α = .82) and the Academic Commitment Scale (α = .89). Permission was granted by the original researchers and ethical clearance was obtained before the raw data could be analysed.

Data analysis was then conducted (see Chapter 4 for results), the interpretation of which will be discussed in the present chapter. Theoretically (as discussed in Chapter 2) the present study also aims to contribute to research regarding a perceived lack of student success in higher education (McInnis et al., 2000; Ulriksen et al., 2010) leading to significant drop out rates within higher education institutions. Although research regarding academic commitment and its relationship to success in higher education is fairly limited, commitment (Jepson & Forrest, 2006) and resilience (Tross et al., 2000) have both been found to positively correlate to student success. Thus it is suggested that a possible relationship may exist between the constructs of academic commitment and resilience within a higher education context.

The results of the present study will be discussed in relation to the main objective, namely the exploration of a possible relationship between academic commitment and resilience for Education students at the University of Pretoria. Thereafter a brief summary of the findings will be presented, followed by the limitations and contributions of the present study.

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5.2 SUMMARY OF THE RESULTS

5.2.1   Group Differences

Descriptive results of the sample (n = 32) suggested that the sample was comprised primarily of first year university students (n = 30, 93.8%), with a mean average percentage of 53.8 (n = 30) with ages ranging between 17 and 22 (mean = 18.71). The majority of the sample were female (n = 18, 56.3%) with English as the primary home language (n = 14, 43.8%). Respondents were required to rank themselves on a number of factors. The majority of the sample (n = 21, 65.6%) felt that they were adequately prepared for their University studies, however the majority (n = 18, 56.3%) also did not feel that they were effectively managing their studies enough. Female respondents were observed to have higher mean scores for Confidence and Internal Locus of Control. Those who reported being adequately prepared presented with higher mean scores for toughness and commitment, social support, confidence and internal locus of control, and resilience as a whole. Those who reported effectively managing their studies also presented with a higher mean score for confidence and internal locus of control. No differences were observed for the Academic Commitment full scale or subscales.

5.3 DISCUSSION OF MAIN FINDINGS

5.3.1   Subquestion 1: Demographic factors and Academic Commitment

Are Education student's demographic factors (gender, effective study management, preparedness for university) related to their level of academic commitment?

5.3.1.1   The relationship between gender and commitment

Existing studies exploring gender differences in terms of relational commitment (the construct on which the Academic Commitment Scale is based) have found differences in scores between men and women to be relatively small (Le & Agnew, 2003; Rusbult et al., 1998). However a study conducted by Human-Vogel and Rabe (2015), which also utilised the Academic Commitment Scale (ACS), found a significant difference in terms of gender for certain subscales. They found that female respondents presented with significantly higher satisfaction regarding their studies, had a higher level of investment, and were less likely (as compared to their male

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counterparts) to report better alternatives to their current programme of study (Human-Vogel & Rabe, 2015).

Similar findings were expected for the present study, however while female respondents did record a higher mean score for Academic Commitment than their male counterparts, no significant differences were observed between male and female respondents on the full or subscales for Academic Commitment. Regardless of significance, the fact that female respondents scored a higher mean on Academic Commitment is corroborated in the existing literature. Female higher education students have been found to be more engaged and motivated with the goals and activities of academia (Baker, 2003; Reisberg, 2000; Wintre & Yaffe, 2000) and tend to have more persistence in terms of finishing University (Allen, 1999). Female students also appear to be more adaptive in terms of adhering to the accepted higher education learning behaviours and discourse (Smith, 2004) and are widely considered as more actively motivated and engaged when it comes to reaching academic goals and completing academic activities. The learner identity of female students could thus be viewed as one which leads them to work harder and more consistently (Woodfield & Yaffe, 2006)

5.3.1.2   The relationship between effective study management and commitment

Effective study management has been described in the existing literature as involving factors such as learner autonomy or academic self-directedness , responsibility for own learning, effective study planning and time management (Mckendry & Boyd, 2012; Richardson, King, Garrett, & Wrench, 2012; Zimmerman, 1995). An existing study conducted by Human-Vogel and Rabe (2015) utilising the ACS found that students' who self-reported that they managed their studies effectively did not report significant differences in academic commitment, however were more likely to report higher means for satisfaction, investment and meaningfulness.

These findings were not corroborated in terms of the present study, as no significant differences (in full or subscale scores) on the ACS were observed for the demographic factor of effective study management. As stated previously, any

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discrepancies need to be viewed with caution as they may be a result of the present samples small sample size (n = 32).

5.3.1.3 The relationship between preparedness and commitment

Existing research has shown that many students report not being adequately prepared for their higher education studies and as a result struggle to achieve balance with their family, education and employment commitments (Valentine et al., 2011). Students low in preparedness have been previously reported by Ozga and Sukhnandan (1998) as having less of a clear orientation towards higher education, unrealistic expectations regarding university life, and a more reactive path into higher education. Conversely Students high in preparedness were found to be more likely to complete their studies and make proactive choices regarding their undergraduate life and study (Ozga & Sukhnandan, 1998).

Within the existing study of Human-Vogel and Rabe (2015), the demographic factor of preparedness for studies indicated that students who reported being prepared for their university studies were more likely to describe their studies as meaningful, experienced greater levels of satisfaction with their studies, and were found to demonstrate a higher overall level of academic commitment than their counterparts. However this finding was not corroborated within the present study as no significant differences were found in the scores between preparedness and the ACS full scale or subscales. The small sample size (n = 32) would have impacted the results from the present study as small sample sizes are less likely to be representative on the population. Interestingly, in terms of the present study, the majority of students reported that they felt prepared for their University studies.

5.3.2 Subquestion 2: Demographic factors and Resilience

Are Education student's demographic factors related to their level of resilience?

5.3.2.1 The relationship between gender and resilience

Longitudinal studies (Werner & Smith, 1982) have indicated that women are generally more skilled in accessing and using social supports and resources and

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frequently demonstrate higher mean scores for resilience when compared to their male counterparts. Mampane (2010), utilising the R-MATS measure with high school students, found similar results with a significant difference in the mean of resilience scores for male and female respondents. It should be noted that Mampane attributes these scores to possible interference as a result of an uneven gender distribution (34% boys and 66% girls) which she views as a limitation of her study (Mampane & Bouwer, 2006, p. 450).

Interestingly, in terms of the present study, while female respondents did report higher mean scores on the resilience full scale, no significant differences were found between full scale scores for male and female respondents. Female respondents were however observed to report higher mean scores for the resilience subscale Confidence and Internal Locus of Control when compared to males in the sample. Confidence and Internal Locus of Control can be defined as an indication of the sense of awareness that a student has regarding their own strength and ability (Mampane, 2010, 2012) and is developed through a product of complex interrelatedness of person, process, context (home, cultural, educational and mass media influences) and time (Bronfenbrenner & Morris, 2006; Pajares, 2010). Characteristics include confidence, independence, social maturity, high self-motivation with the potential to plan, self-monitoring, taking charge and focusing on goals in order to achieve superior academic performance (Nelson & Mathia, 1995; Pajares, 2010).

A possible reason for this difference between male and female respondents could lie in the premise that gender reflects a socially constructed identity with respondents constructing beliefs, behaviours and dispositions in response to the higher education structures that they find themselves in (Hubbard, 2005, p. 611). Thus respondents are impacted and in turn impact their learning environments. Female respondents may simply be better able to identify and actively structure support within their higher education environment through proximal processes in order to best support their own optimal learning. Accessing this support would then work towards validating the self-regulation of their behaviour (Jenkins, 1996). This self-regulation

would also result in female students being less likely to be at risk for dropout from higher education than their male counterparts (Vallerand et al., 1997).

5.3.2.2   The relationship between effective study management and resilience

Existing research has rated girls significantly higher than boys in terms of their achievement according to categories such as learning focus, planning and monitoring, study management and persistence (Martin, 2003). The effective management of studies involves autonomous behaviours and strategies such as responsibility for own learning, effective planning for studies, self-directed learning, and effective time management (Mckendry & Boyd, 2012; Richardson et al., 2012). The link to self-regulatory behaviours is evident in the present study with those students who reported effective management of studies presenting with a higher mean score for Confidence and internal locus of control. Thus the present study corroborates with current literature regarding the importance of adequate preparation for students before they reach the context of higher education. Students who feel capable and prepared are more likely to achieve success early on, feel that they can effectively manage their studies, and as a result continue to build their confidence and self-motivation in actively and independently managing their own academic success.

5.3.2.3   The relationship between preparedness and resilience

Existing research has indicated that preparedness for University will improve a students' chance of being resilient, successful in their academics and reduce the negative impact of stressors which may cause them to consider dropping out (Morales, 2008; Wilcoxson, 2010). In terms of the present study, students who reported feeling adequately prepared for their studies scored significantly higher means for the resilience subscales of Toughness and Commitment, Social Support, Confidence and Internal Locus of Control, as well as higher means for resilience as a whole. The present study thus corroborates existing research in terms of the importance of preparedness for higher education academic success.

In terms of Toughness and Commitment, students who report feeling better prepared for university thus can be described as having an increased sense of commitment and orientation towards achievement, success, and never giving up (Mampane, 2010, 2014). Resilient students would thus be better able to self-regulate and control themselves to work harder when facing failure, identify the required learning goals and effort needed, and then approach the necessary support required in order to be successful (Pintrich, 2004). Students who have increased preparedness may be better suited in identifying and gaining access to social support. Positive reciprocal interactions with the academic context would then likely impact students confidence and internal locus of control providing them with increased levels of resilience.

5.3.3   Sub-question 3: Are students who report greater resilience more likely to report higher commitment to their academics?

While exploring the current existing research on academic commitment and resilience, no prior research was found which specifically investigates a possible relationship between these two constructs specifically within a higher education context. For the purpose of the present study, data analysis revealed a very weak, non-significant relationship between Academic Commitment and Resilience ($p = 0.081$) and thus the null hypothesis was rejected.

Subscales were then analyzed and while some correlations were found between the subscales, the results should be viewed with caution due to the nature of the small sample. Firstly, the resilience subscale of achievement orientation was found to have a moderately strong positive correlation to the academic commitment full scale and meaningfulness subscale. This could provide an indication that those students who self-regulate themselves towards academic success (achievement orientated) would have an increased probability of having a higher mean score on the full scale of academic commitment and their continued success would make what they are doing meaningful. Conversely doing something meaningful would possibly motivate a student to have more of an achievement orientation towards that task, and result in an increased need to be committed to that task in order to complete it.

Achievement orientation was also found to be strongly correlated to the resilience total scale, and to social support. Thus students with strong achievement orientation can be said to be more resilient (specifically in how they are able to identify and utilise social support but also in terms of their confidence and internal locus of control and their toughness and commitment).

5.4 CONTRIBUTION OF THE STUDY

5.4.1   Contributions to theory

The present exploratory study, having found a very weak non-significant relationship between Academic Commitment and Resilience, contributes to existing theory on Academic Commitment (Human-Vogel, 2008, 2013) and Resilience (Mampane, 2010, 2014) as well as existing research regarding the relationship between the two (which at the time of conducting the study there was none). It should be noted however that the theoretical contribution of the present exploratory pilot study is limited by the impact of the small sample size and specific context. Thus any findings will be used to promote possible future directions for study, rather than make a definite contribution to theory regarding resilience and academic commitment in higher education students.

Contributions to theory were also found whilst analyzing relationships between the subscales of Academic Commitment and Resilience where the subscale of Achievement Orientation (belonging to the Resilience scale) was found to be related to both Resilience and Academic Commitment. Students who achieved a high score on the Achievement Orientation subscale were found to indicate increased scores on overall Academic Commitment and Meaningfulness as well as overall Resilience and Social Support. The present study also corroborates existing research (Vallerand et al., 1997) that female higher education students, in this case specifically students at the University of Pretoria (as based on their scores on the Resilience and Academic Commitment scales), may be at less risk for dropout from higher education than their male counterparts.

5.4.2   Contributions to methodology

The R-MATS had previously been developed and utilized primarily with secondary school students. The significant positive intra-correlations found in the data analysis conducted in chapter 4 indicate the appropriateness of utilizing the R-MATS with first year higher education students. The Resilience full scale had a significant positive intra-correlation to all four of the resilience subscales (achievement orientation, confidence and internal locus of control, social support and toughness and commitment) which supports existing research regarding its efficacy. Prior to the present study the R-MATS had primarily been used within a secondary school context, however the significant positive intra-correlations found in the present study suggest the possible usability and need for further study of the R-MATS as a measure of resilience for first year university students.

The present study found the meaningfulness subscale to be a reliable measure and was the only ACS subscale to indicate a normal distribution. A moderately significant correlation was also found between the meaningfulness subscale and the Academic Commitment full scale which adds to the validation of the inclusion of the meaningfulness scale into the ACS for use with this specific population of higher education students. Alternatively the level of commitment subscale was found to be very skewed and future studies utilizing the ACS should consider removing it from analysis completely.

5.4.3   Contribution to practicality

A majority of students reported not managing their studies effectively. Thus the current research indicates that this could be a practical consideration for the university in the present study to consider, especially as scores related to management of studies were related with scores on the overall resilience scale. Another practical consideration would be to increase support, specifically to male students in order to develop increased confidence and internal locus of control. There can also be an increased emphasis on the importance of improving identification and access to social support which would have a direct impact on students' academic commitment.

5.5 LIMITATIONS OF THE STUDY

Several limitations are evident within the present study. Firstly, the present study involved the analysis of secondary data which does not provide the present researcher with control over who was sampled, what constructs were measured, or how they were measured (Greenhoot & Dowsett, 2012). Nicoll and Beyea (1999) describe how this has the potential to reduce data accuracy and the scientific rigour of the present study as the original study's data collection instrument may not be optimal for addressing the present study's research questions and problem.

Secondly the sample of higher education students was very small (n = 32), reducing statistical power and thereby limiting the study's findings. Data from the original study was also collected from one location (the University of Pretoria) and at one point at time. Due to the size and uniqueness of the original sample, the results of the present study will not be generalizable beyond the specific population and context from which the sample has been drawn. This is especially true considering the post-positivistic research paradigm of the present study (mentioned in chapter 3) which implies that the researcher expects to view the world as ambiguous and variable (Creswell, 2009) and that one persons 'truth' may not be the same for another (O'Leary, 2004).

A third limitation revolves around the limitations of correlational analysis in that no inferences can be made with regards to the way in which the two variables are, or are not related. One can only discuss whether significant correlations exist, and not necessarily their direction. This becomes more difficult when there is no evidence of existing literature regarding whether a possible relationship between academic commitment and resilience exists. Thus the exploratory nature of the present study should again be emphasised. Despite these limitations the major purpose of exploratory research is the clarification of ideas, methods and the formulation of questions informing a later, more precise study (Struwig & Stead, 2001). For the moment the intention was to explore whether a possible relationship exists between academic commitment and resilience, and not specifically to be able to generalise (Babbie, 2005).

5.6 RECOMMENDATIONS FOR FUTURE RESEARCH

The present exploratory study has identified a number of areas requiring future research and enquiry.

1) To further explore the tentative correlation between achievement orientation, academic commitment and meaningfulness and how they relate to success for higher education students.

2) The sample population of the present study was limited to students (specifically within the University of Pretoria) between the ages of 17 and 22. Thus a replication of the study with a larger more diverse sample population, spanning more than one university or higher education institution, would improve the statistical power of the interpretations.

3) To use actual student grades rather than self-reported grades to see whether there are any correlations to actual achievement.

4) The addition of qualitative or mixed method approaches to future research regarding the topics discussed as this would provide more depth and richer understanding of the constructs investigated within the present study.

5) Self-regulation also arose as an important construct in the present study suggesting a necessary shift needed in research from a focus on labelling students as resilient or committed within the context of their academics, towards instead understanding how students develop self-regulatory strategies for use in learning environments.

5.7 CONCLUSION

In conclusion, while the main expectation regarding a possible significant relationship between the constructs of resilience and academic commitment was not met; there were indications of some inter-subscale relationships that could prove useful as a possible area for future research. Demographic factors such as gender, effective study management and preparedness were also found to be influenced by the proximal processes that an individual engages in with a specific context, and in turn influences the context and the presentation of resilience and academic commitment in significant ways. The PPCT model was a useful framework to help try

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to understand the complex interactions between the person and the context through proximal processes over time.

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APPENDIX

APPENDIX A - Letter of informed consent from original study.

Faculty of Education

March 2013

Dear Student,

We would like to invite you to participate in a cross-national study on how students feel about their lecturers and their studies at university. The primary investigator in this study is Prof. Christopher Niemiec of the University of Rochester, New York, USA, and the two South African investigators are Dr Salomé Human-Vogel and Dr Ruth Mampane.

In this study, we would like to ask you some personal information such as your age, gender and race, but we do not require you to write down your name or anything that can identify you. This means that your privacy will be protected and your participation will be confidential to all investigators. In this second part of the study, you will complete two questionnaires, one on social support and self-awareness, and one on learning. When you complete the questionnaire, please make sure that you do not omit any items, and that you mark only one answer per statement.

Participation in this study is voluntary. Please bring your completed questionnaire pack to the next class where a research assistant will be ready to receive it. This study has received ethical clearance from the Faculty of Education Ethics Committee. If you have any questions about the study, you are welcome to contact the Ethics committee (funke.omidire@up.ac.za).

Yours Sincerely

Dr S. Human-Vogel   Dr Ruth Mampane

APPENDIX B - Written permission from the ethics committee

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Education

RESEARCH ETHICS COMMITTEE

CLEARANCE CERTIFICATE	**CLEARANCE NUMBER :** UP 11/05/07 HUMAN-VOGEL 13-001
DEGREE AND PROJECT	MEd The relationship between academic commitment and resilience for Education students at the University of Pretoria.
INVESTIGATOR(S)	Ben Dominic Viljoen
DEPARTMENT	Educational Psychology
DATE CONSIDERED	25 February 2015
DECISION OF THE COMMITTEE	APPROVED

Please note:

For Masters applications, ethical clearance is valid for 2 years
For PhD applications, ethical clearance is valid for 3 years.

CHAIRPERSON OF ETHICS COMMITTEE	Prof Liesel Ebersöhn
DATE	25 February 2015
CC	Jeannie Beukes Liesel Ebersöhn Prof S Human-Vogel Dr MR Mampane

This ethical clearance certificate is issued subject to the following condition:

1. It remains the students' responsibility to ensure that all the necessary forms for informed consent are kept for future queries.

Please quote the clearance number in all enquiries.

APPENDIX C – Survey used in the existing data collection

DEMOGRAPHIC INFORMATION/*DEMOGRAFIESE INLIGTING*

Please make a cross in the applicable block:/Maak 'n kruisie in die blokkie van jou keuse*:*

---

1.   Indicate your sex/*Dui jou geslag aan*:   Male/*Manlik* | 1 | Female/*Vroulik* | 2 | V1

2.   How old are you (completed years)?/ | | Years/   V2
     Hoe oud is jy (voltooide jare)?   Jaar

3.   What is your home language? (If multilingual, choose language you are most comfortable in)/   V3
     Wat is jou huistaal? (Indien meertalig, dui die taal aan waarin jy die gemaklikste is).

     Afrikaans | 1 | English | 2 | Sepedi | 3 | IsiZulu | 4 |

     Sesotho | 5 | SiSwati | 6 | IsiXhosa | 7 | IsiNdebele | 8 |

     Setswana | 9 | Tshivenda | 10 | Xitsonga | 11 | Other/ | 12 |
     Ander

     If other, please specify:/*Spesifiseer indien ander:* _____

4.   What is your current year of study? | | V4
     In watter studiejaar is jy?

5.   Do you feel adequately prepared for university studies?   Ja | | Nee | | V5
     Voel jy toereikend voorbereid vir universiteitsstudies?   Yes   No

6.   Do you think you manage your studies effectively?   Ja | | Nee | | V6
     Dink jy bestuur jou studies effektief?   Yes   No

7.   Do you set learning goals for yourself?   Ja | | Nee | | V7
     Stel jy leerdoelwitte vir jouself?   Yes   No

8.   Do you feel supported by your family in your studies?   Yes | | No | | V8
     Voel jy dat jou gesin jou ondersteun in jou studies?   Ja   Nee

9.   Do you live in a residence / commune?   Yes | | No | | V9
     Woon jy in 'n koshuis / kommune?   Ja   Nee

10. What is the average percentage that you are maintaining in   V10
     your studies? | % |
     *Wat is die gemiddelde persentasie wat jy in jou studies
     handhaaf?*

Section A: Social support and self-awareness

These are statements concerning your thoughts and feelings about social support. Please read each statement carefully and then rate yourself on a 1 (true all the time) to 4 (untrue all the time) scale. Try to be as honest and accurate as possible in your responses. Circle the number that describes you best and make sure you **circle** a number for each statement:/

Die volgende is stellings in verband met jou menings en gevoelens in terme van ondersteuning. Lees asseblief elke stelling deeglik en beoordeel jou dan self op 'n skaal vanaf 1 (glad nie waar van my nie) tot 5(baie waar van my). Maak seker dat jy elke item beantwoord en probeer om so eerlik en akkuraat as moontlik met jou antwoorde te wees. **Omkring** *die syfer wat jou die beste beskryf:*

	TRUE ALL THE TIME	TRUE MOST OF THE TIME	UNTRUE MOST OF THE TIME	UNTRUE ALL THE TIME	
1. I have an adult to talk to who listens to me.	1	2	3	4	V11
2. I make sure that I do my work.	1	2	3	4	V12
3. I do my best to find the right answer to a problem.	1	2	3	4	V13
4. My lecturer works hard to help me understand my work better.	1	2	3	4	V14
5. I am in control of what happens to me.	1	2	3	4	V15
6. I feel safe and loved at home, they want to know if I am okay.	1	2	3	4	V16
7. Doing well at university is very important to me.	1	2	3	4	V17
8. My future and success depend on my hard work.	1	2	3	4	V18
9. I believe that I have good talents.	1	2	3	4	V19
10. I do not allow people to stop me from trying to do my best in my work.	1	2	3	4	V20
11. I believe that I am able to do better.	1	2	3	4	V21
12. Even when my problems are just too much, I do not give up trying to make it work.	1	2	3	4	V22
13. I know someone at university who cares about me and I can talk to.	1	2	3	4	V23
14. I use different ways to work out a difficult problem.	1	2	3	4	V24
15. There is at least one person I can talk to who listens to me and encourages me to do my best.	1	2	3	4	V25
16. I believe that one day things will be better for me.	1	2	3	4	V26

17. I do not like to be absent from class, I hate to miss the teaching.	1	2	3	4	V27
18. I know a good person whose behaviour is an example to me.	1	2	3	4	V28
19. Even when I don't understand in class I don't give up trying.	1	2	3	4	V29
20. My lecturers make me see that I am good with my work and can do well in class.	1	2	3	4	V30
21. My lecturers support me to aim high and to think of my bright future.	1	2	3	4	V31
22. Lecturers explain a lot in class, they give extra examples.	1	2	3	4	V32
23. My future is in my hands, nobody can take that away from me.	1	2	3	4	V33
24. I am a tough person.	1	2	3	4	V34

Section B: Studying and Learning/*Afdeling B: Studeer en Leer*

Please indicate how you feel about your studies. Read each statement carefully and decide to what extent you personally agree or disagree with it. Circle the number that corresponds with your opinion. Make sure you circle a number for every statement/*Dui asseblief aan hoe jy in die algemeen oor jou studies voel. Lees elke stelling deeglik en besluit dan in watter mate jy daarmee saamstem of nie saamstem nie. Omkring die syfer wat op jou van toepassing is en maak seker dat jy 'n syfer vir elke stelling omkring*:

	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree	
I want to continue with my studies ./*Ek wil voortgaan met my studies.*	1	2	3	4	5	6	V35
I believe in life-long learning./*Ek is ingestel op lewenslange leer.*	1	2	3	4	5	6	V36
I am determined to complete my studies successfully. / *Ek is vasbeslote om my studies suksesvol af te sluit.*	1	2	3	4	5	6	V37
I will persist with my studies until I complete my degree. / *Ek sal aanhou studeer totdat ek my graad voltooi het.*	1	2	3	4	5	6	V38
I am not prepared to give up studying. / *Ek is nie bereid om op te gee met my studies nie.*	1	2	3	4	5	6	V39

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	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree	
My studies give me a great deal of satisfaction./*My studies is vir my baie bevredigend.*	1	2	3	4	5	6	V40
I am very happy with my studies./*Ek is baie gelukkig met my studies.*	1	2	3	4	5	6	V41
Being able to study is close to ideal./*Om te kan studeer is bykans ideaal.*	1	2	3	4	5	6	V42
My studies are fulfilling to me./*Om te studeer is vir my vervullend..*	1	2	3	4	5	6	V43
My studies fulfil my needs for intellectual stimulation and intellectual interaction./*My studies vervul my behoefte aan intellektuele stimulasie en intellektuele interaksie.*	1	2	3	4	5	6	V44
I enjoy studying. / *Ek geniet dit om te studeer.*	1	2	3	4	5	6	V45
I feel content with my studies. / *Ek voel tevrede met my studies.*	1	2	3	4	5	6	V46

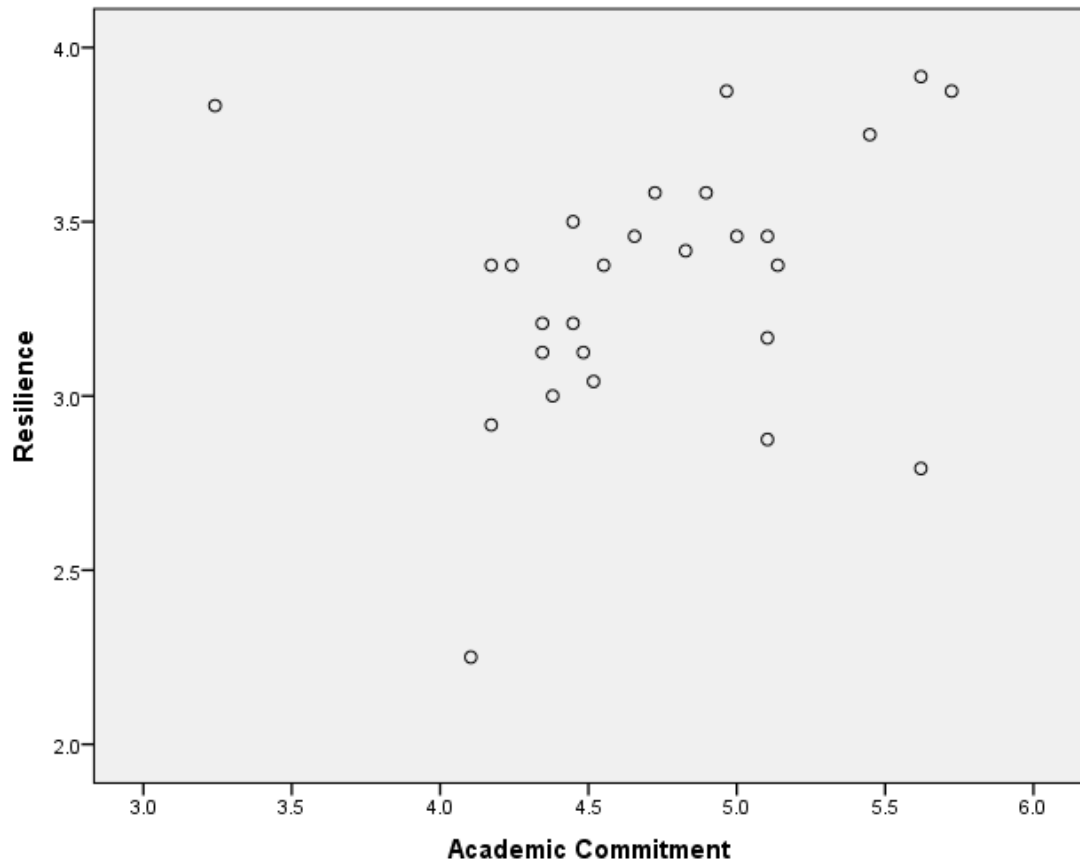|	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree	
If I had a choice, I would rather do something else than study (travel, work, socialise) / *Indien ek 'n keuse gehad het, sou ek eerder iets anders doen as studeer (reis, werk, sosialiseer).*	1	2	3	4	5	6	V47
If I could, I would rather do something other than study. / *As ek kon, sou ek eerder iets anders as studeer doen.*	1	2	3	4	5	6	V48
There are better things in life than studying. / *Daar is beter dinge in die lewe as studeer.*	1	2	3	4	5	6	V49
Anything else would be better than having to study. / *Enige iets sou beter wees as om te moet studeer.*	1	2	3	4	5	6	V50

	Strongly disagree	Disagree	Slightly disagree	Slightly Agree	Agree	Strongly Agree	
I feel very involved in my studies–like I have put a great deal into it./*Ek voel baie betrokke by my studies–asof ek baie daarin belê het.*	1	2	3	4	5	6	V51
Compared to others I know, I have invested a great deal of time and effort in my studies./*Ek het baie tyd en moeite in my studies belê in vergelyking met ander wat ek ken.*	1	2	3	4	5	6	V52
I spend a lot of time on my studies. / *Ek spandeer baie tyd aan my studies.*	1	2	3	4	5	6	V53
I usually put a lot of effort into my studies. / *Ek sit gewoonlik heelwat in my studies in.*	1	2	3	4	5	6	V54
I do a lot to ensure success in my studies (attend class, prepare, read, etc.) / *Ek doen baie om sukses in my studies te verseker (woon klas by, berei voor, lees, etc.)*	1	2	3	4	5	6	V55

	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree	
Being a student allows me to express myself completely./ *Student wees laat my toe om myself uit te leef.*	1	2	3	4	5	6	V56
My approach to my studies reflects who I am as a person./*My benadering tot my studies reflekteer die persoon wat ek is.*	1	2	3	4	5	6	V57
My studies contribute to shaping me as a person./*My studies dra by tot my vorming as persoon.*	1	2	3	4	5	6	V58
I am the kind of person who thrives on studying./*Ek is die tipe persoon wat floreer deur te studeer.*	1	2	3	4	5	6	V59
My studies fulfill me./*My studies vervul my.*	1	2	3	4	5	6	V60
Studying is a central aspect of who I am./ *Studeer is 'n sentrale deel van wie ek is.*	1	2	3	4	5	6	V61
Studying lends meaning to my life./*Om te studeer gee betekenis aan my lewe.*	1	2	3	4	5	6	V62

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|							
I express myself through my studies. / *Ek leef myself uit in my studies.*	1	2	3	4	5	6	V63
Studying is an important part of my life. / *Studeer is 'n belangrike deel van my lewe.*	1	2	3	4	5	6	V64

Thank you / *Baie dankie*

Please check that all questions were answered / *Kyk asseblief dat alle vrae beantwoord is*

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APPENDIX D – Scatterplot indicating the distribution for the R-MATS full-scale and the ACS full-scale.
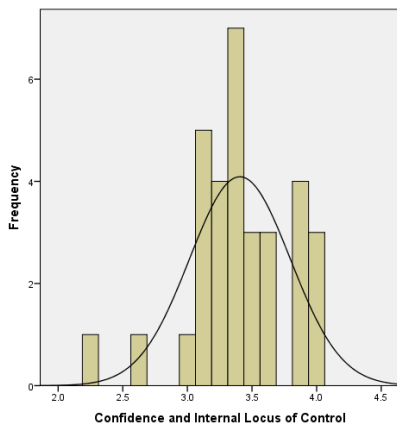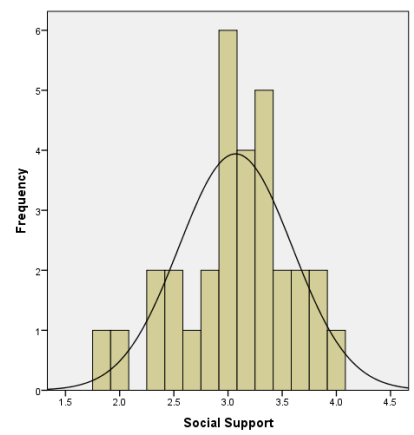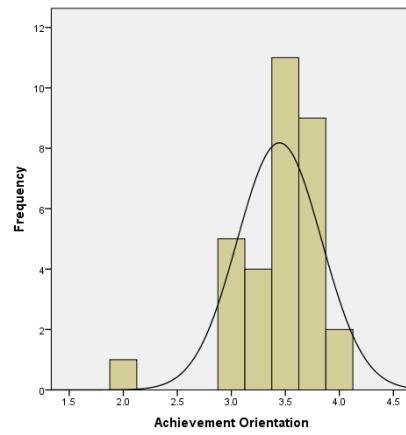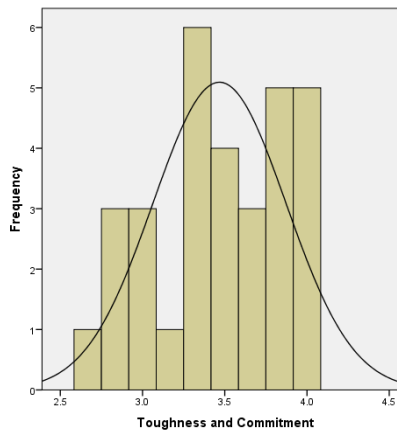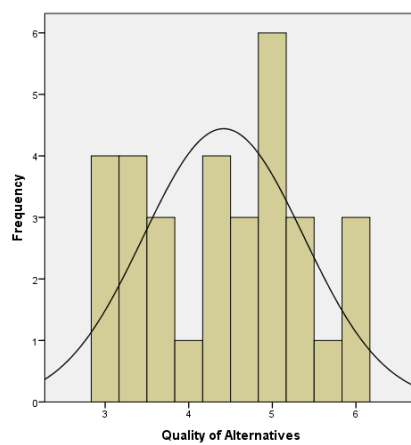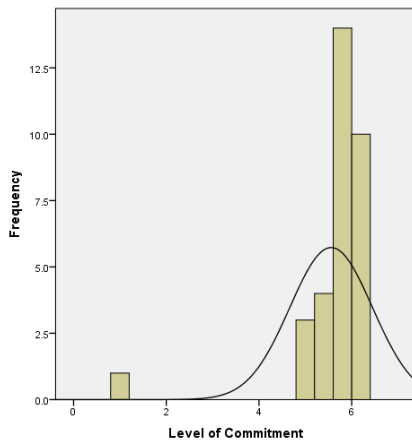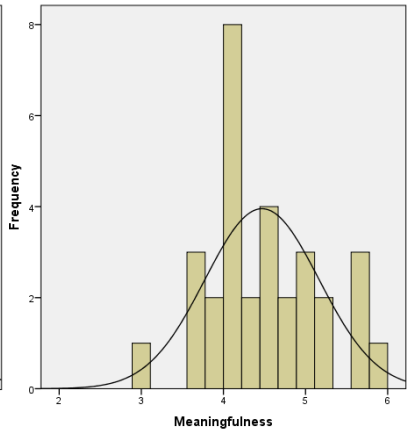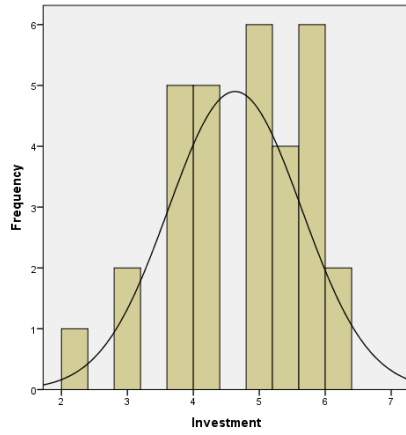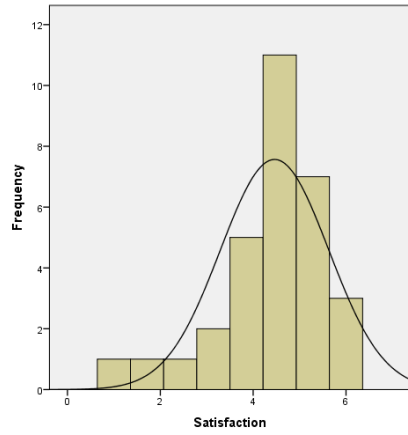
APPENDIX F

Gender Ranks

	Gender	N	Mean Rank	Sum of Ranks
Level of Commitment	Male	14	15.18	212.50
	Female	18	17.53	315.50
	Total	32		
Meaningfulness	Male	14	17.50	245.00
	Female	17	14.76	251.00
	Total	31		
Investment	Male	13	16.12	209.50
	Female	18	15.92	286.50
	Total	31		
Quality of Alternatives	Male	14	17.14	240.00
	Female	18	16.00	288.00
	Total	32		
Satisfaction	Male	13	16.96	220.50
	Female	18	15.31	275.50
	Total	31		
Toughness and Commitment	Male	14	18.46	258.50
	Female	17	13.97	237.50
	Total	31		
Social Support	Male	14	17.50	245.00
	Female	17	14.76	251.00
	Total	31		
Confidence and Internal Locus of Control	Male	14	21.82	305.50
	Female	18	12.36	222.50
	Total	32		
Achievement Orientation	Male	14	18.29	256.00
	Female	18	15.11	272.00
	Total	32		

Adequately prepared ranks

	Adequately prepared	N	Mean Rank	Sum of Ranks
Level of Commitment	Yes	21	16.67	350.00
	No	11	16.18	178.00
	Total	32		
Meaningfulness	Yes	21	17.64	370.50
	No	10	12.55	125.50
	Total	31		
Investment	Yes	20	16.00	320.00
	No	11	16.00	176.00
	Total	31		
Quality of Alternatives	Yes	21	17.45	366.50
	No	11	14.68	161.50
	Total	32		
Satisfaction	Yes	20	17.73	354.50
	No	11	12.86	141.50
	Total	31		
Toughness and Commitment	Yes	21	19.31	405.50
	No	10	9.05	90.50
	Total	31		
Social Support	Yes	21	19.38	407.00
	No	10	8.90	89.00
	Total	31		
Confidence and Internal Locus of Control	Yes	21	20.33	427.00
	No	11	9.18	101.00
	Total	32		
Achievement Orientation	Yes	21	18.64	391.50
	No	11	12.41	136.50
	Total	32		

Effectively manage studies ranks

|	Effectively manage studies	N	Mean Rank	Sum of Ranks
Level of Commitment	Yes	14	15.50	217.00
	No	18	17.28	311.00
	Total	32		
Meaningfulness	Yes	14	15.36	215.00
	No	17	16.53	281.00
	Total	31		
Investment	Yes	14	15.86	222.00
	No	17	16.12	274.00
	Total	31		
Quality of Alternatives	Yes	14	15.64	219.00
	No	18	17.17	309.00
	Total	32		
Satisfaction	Yes	13	15.00	195.00
	No	18	16.72	301.00
	Total	31		
Toughness and Commitment	Yes	13	18.31	238.00
	No	18	14.33	258.00
	Total	31		
Social Support	Yes	14	19.39	271.50
	No	17	13.21	224.50
	Total	31		
Confidence and Internal Locus of Control	Yes	14	20.68	289.50
	No	18	13.25	238.50
	Total	32		
Achievement Orientation	Yes	14	19.54	273.50
	No	18	14.14	254.50
	Total	32		
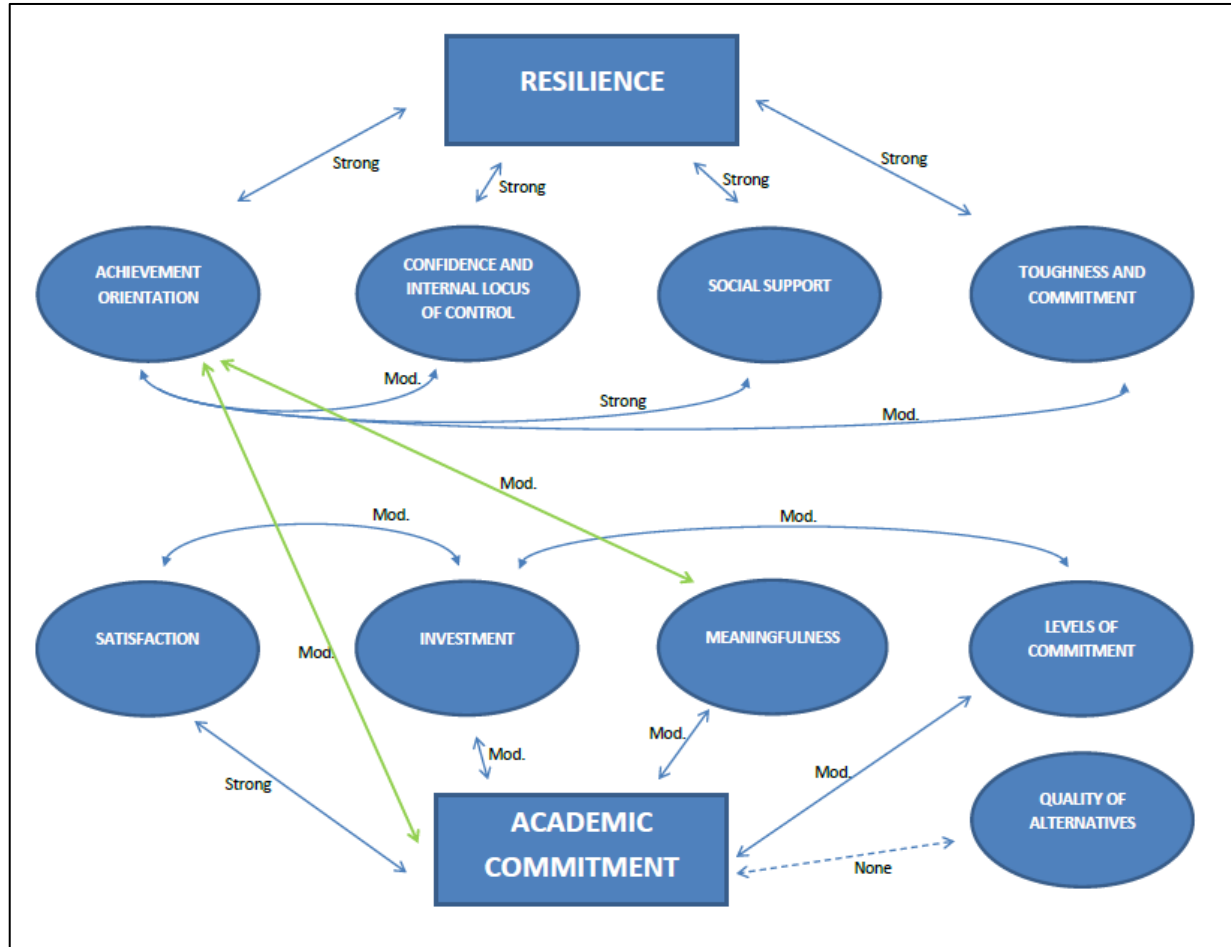
Figure 4: Diagram showing the intra and inter-correlations between the full and subscales of Academic Commitment and Resilience.