THE IMPACT OF MINDFULNESS AND SELF-CONSCIOUSNESS ON ADJUSTMENT AND ACADEMIC PERFORMANCE: A STUDY OF SOUTH AFRICAN FIRST-YEAR STUDENTS

by

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quoted have been indicated and acknowledged by means of complete references.

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Abstract

This study was designed to determine whether a relationship exists between self-reported mindfulness, self-consciousness, adjustment and academic performance in first-year university students. Additionally, the study aimed to assess the predictive quality of mindfulness and self-consciousness towards emotional adjustment (adjustment disorder symptoms, depression and anxiety) and academic performance, and to further determine the contribution of mindfulness and self-consciousness on adjustment to the predictability of academic performance. First-year students (N = 290) at the Tshwane University of Technology (TUT) at the Pretoria West and Ga-Rankuwa campuses completed the self-reported mindfulness measure, Mindfulness Attention and Awareness Scale (MAAS) (Brown & Ryan, 2003), the Self Consciousness Scale- Revised (SCS-R) (Scheier & Carver, 1985), the Beck Depression Scale (BDI) (Beck et al., 1961) the Beck Anxiety Scale (BAI) Beck & Steer,1993) and the adjustment disorder checklist; based on DSM V, (Sadock, Sadock & Ruiz, 2014). Students' year-end results for the first year of study were used to operationalise academic performance. Results of correlation analyses indicated a significant negative correlation between mindfulness and students' emotional adjustment (adjustment disorder symptoms, depression and anxiety), a significant positive correlation between self-consciousness and students' emotional adjustment (adjustment disorder symptoms, depression and anxiety) as well as a significant negative correlation between adjustment disorder symptoms and academic performance. Multiple linear regression analysis was used to test whether mindfulness and self-consciousness significantly predicted students' depression, anxiety and adjustment disorder symptoms. The results of the regression analysis indicated the two predictors explained 16% of the variance ($F_{(1, 1773)} = 29.66$, $P < 0.0001$) (depression), 14% of the variance ($F_{(1, 985)} = 24.14$, $p < 0.0001$) (anxiety) and 14% of variance ($F_{(2, 292)} = 23.87$, $p < 0.001$) (adjustment disorder symptoms). Furthermore, mediation analysis provided information regarding the impact of mindfulness and self-consciousness on students' academic performance. The impact of mindfulness and self-consciousness on students' academic performance (students' marks) was found to be mediated by adjustment disorder symptoms. However, the Sobel test indicated a significant effect (0.03) for mindfulness and an insignificant effect (0.09) for self-consciousness.

Key terms:

Mindfulness, self-consciousness, depression, anxiety, adjustment disorder symptoms, academic performance, first-year university students, transition, emotional adjustment, First year experience, university transition

CHAPTER ONE

INTRODUCTION

1.1 Background

Transitioning from high school to an institution of higher learning presents a period of considerable change for the individual. During this time, individuals leave the comfort and security of the family and enter into the unfamiliar territory consisting of peers and other non-familial adults. Thus, moving to an institution of higher learning for most individuals provides a sanctioned interim between childhood and adulthood and with that comes important tasks as one separates self from parents and establishes an independent ego identity (Erikson (1968). The first year of study marks "a period of vulnerability during which young students establish, test and adjust new psychological identities" (Verger et al., 2009, p. 644). This often leads to the development of independence and autonomy, deeper intimate friendships and romantic relationships, as well as the development of a strong individual identity (Brooks & DuBois, 1995). Most students have social obligations to fulfil, and it is expected of them to succeed – all while in the process of becoming adults and attaining independence (Larson, 2006). According to Pancer, Hunsberger, Pratt and Alisat (2000), students start university with expectations to grow personally, socially and intellectually.

Upon arrival at an institution of higher learning, first-year students "face multiple transitions, including changes in their living arrangements, changes in the academic environments, changes in friendship networks, all while adapting to greater independence and responsibility in their personal and academic lives" (Pittman & Richmond, 2008, p. 344). The move to university requires students to make their own decisions and manage activities – including daily academic/class schedules, living arrangements, finances, as well as various aspects of their social life.

They are required to "find a new balance between their own needs, interests, and abilities and the demands and expectations of the university" (Sugimura & Shimizu, 2011, p. 25). During the first year of study demands increase and new social relations are established (Tao, Dong, Pratt, Hunsberger & Pancer, 2000).

Although the experience of moving to an institution of higher learning is a positive one, and most first-year students' pre-university expectations are often met, this positive experience often turns out to be negative once students have spent some time at an institution of higher learning (Pancer et al., 2000). It seems like some students are more likely to struggle to adjust in the higher learning environment. The move to university is often regarded as one of the first major life transitions individuals go through, and most of them may not be equipped to effectively handle the change (Brooks & DuBois, 1995). The disruption of "established behaviour patterns coupled with the added dimensions (for many students) of living away from home for the first time often results in ambiguity and loss of reference points in areas previously considered central to one's identity" (Bray & Born, 2004, p. 181). Moreover, the demands of the university environment could elicit a sense of loss, feeling of helplessness, which can result in a negative self-image in some students (Whitman, Spendlove & Clark, 1984).

The transition to university and the associated challenges can also cause some first-year students to drop out of institutions of higher learning (Levitz & Noel, 1989). To this effect, studies indicate that the majority of students drop out of universities during or after their first year of study (e.g. Barefoot, 2004; Cabrera, Thomas, Álvarez, & González (2006). It is estimated that first-year drop-outs will occur between the second and the sixth week of their university stay (Levitz & Noel, 1989). About 75% of students who drop out of university reportedly do so at the end of the first semester (Tinto, 1993). Also, more alarming is the fact that research shows that many of these students never return to complete their studies (Consolvo, 2002). This poses a challenge for institutions of higher learning, and has resulted in first-year university students' retention and attrition being amongst major current issues in higher education (Anagelino, Williams & Natvig, 2007).

It appears that a significant number of students who drop out during the first year of study do so due to adjustment difficulties. Tinto (1993) maintained that 40% of students in institutions of higher learning encounter difficulties in adjusting, resulting in many of them leaving the institution before attaining their degrees. The first year of study, especially the first semester, is perceived as the most critical time for adapting, and can pose numerous adjustment difficulties for the new student (Clinciu, 2013). These adjustment difficulties can affect new students' academic performance, and hinder students' success (Habayed & Abu Marak, 2009).

Gall, Evans and Bellrose (2000) also seem to support the view that the demands of the new environment, the anticipation of what lies ahead, as well as the initial adaptations students have to make are likely to be experienced as stressful.

A nationwide study conducted by the American College Health Association in 2004 showed that 94% of the students who participated in the study were overwhelmed by the demands of university life (American College Health Association, 2006). Another study conducted by Cooke, Bewick, Barkham, Bradly and Audin (2006) found that stress levels were much higher for students at the start of their first year, compared to prior to beginning their tertiary education. According to Fouilloux Morales (2013), the new stressors that students are faced with during the first year of their studies have been linked to high levels of psychological morbidity. These findings were corroborated by the findings of the study conducted by Lu (1994) that demonstrated that stressors associated with daily hassles could lead to anxiety and depression in first-year university students. It appears that a significant number of students experience health and emotional problems within the first few months of being at university (Pancer et al., 2000), and this could pose a challenge for the overall success of new students. Similar results were reported in a study conducted by Kessler, Foster, Saunders and Stang (1995), who found that about 5% of adjustment problems that often lead students to drop-out early were associated with psychological issues. Thus, Hunter (2006, p. 9) maintained that "attention to student characteristics, needs, behaviours and experiences is central to creating and sustaining successful transition initiatives."

From the research findings mentioned above, and according to Compas, Wagner, Salvin and Vannatta (1986), one can conclude that the transition from high school to university can increase first-year students' vulnerability to emotional problems.

Emotional variables have been identified as predictors of adjustment to university and successful adjustment to university is regarded as essential for the overall success of students in institutions of higher learning (Brooks & DuBois, 1995). Therefore, understanding the experiences of students during the transition from high school to university calls for a consideration of emotional skills required during this phase of the student's life – that is, there is a need to consider students' emotional skills that can assist first-year students to cope with the demands of the transition (Chemers, Hu & Garcia, 2001; Crockett et al., 2007; Tao et al., 2000).

Allen and Friedman (2010) regarded values, attitudes, ethics and self-awareness as critical aspects of the student's emotional life. The current study focuses on self-awareness as an emotional skill necessary for new students during the first year of study at an institution of higher learning. The importance of self-awareness in psychology has been emphasised in insight-oriented psychotherapy approaches – particularly its significance in heightening an individual's awareness of responsibility for his or her behaviour, feelings and thoughts (Gilliland, James & Bowman, 1989). Studies have been conducted on the implications of self-awareness in different areas of psychological well-being; including adjustment (Ingram, 1990) and emotional experience (Carver & Scheier, 1990).

Self-awareness has furthermore, been conceived as a crucial element for individuals to identify progress towards goals (Carver & Scheier, 1998), targeting areas for self-improvement (Sedikides & Strube, 1997) and personal development (Hall, 2004). Research has shown that promoting self-awareness can have a positive effect on the health status and personal behaviours of students (Healy & McSharry, 2011), as well as on personal growth and well-being (Novack, Epstein & Paulsen, 1999).

There is growing evidence that suggests that developing self-awareness can contribute to a successful transition of students from high school to institutions of higher learning. Nordell Fort (2015), in her study, demonstrated how self-awareness, self-reflection and confidence building aided South Korean students' successful transition into American community colleges. Another study by Villanueva (2015) illustrated how self-awareness contributed to increased persistence to study, as well as the positive correlation between self-awareness and the retention and graduation rates among Latino college students.

Furthermore, a study conducted by Higbee and Dwinell (1992) demonstrated that offering courses that promote self-awareness in first-year students can have a significant positive effect in students as far as setting goals, time management, career exploration, relationships, communication skills, academic anxiety and health are concerned. There seems to be a paucity of research conducted previously in South Africa on how self-awareness can impact on students in institutions of higher learning. For the purpose of this study, self-awareness will be studied with specific reference to self-consciousness and mindfulness.

According to Brown and Ryan (2003), mindfulness and self-consciousness are elements of self-awareness that are effective in shifting the focus from external factors to internal processes by heightening awareness of the self, and seeking to understand the impact of that self-awareness on how individuals manoeuvre through their environments. Self-consciousness and mindfulness have been found to have a positive relationship to overall psychological well-being (Harrington, Loffredo & Perz, 2014). These researchers conducted a study involving a group of university students in the United States of America, which showed that mindfulness and certain aspects of self-consciousness can help predict psychological well-being in students. Although limited, there is growing interest in literature regarding how mindfulness and self-consciousness can affect different aspects of students' behaviour. There is also evidence that suggests that certain aspects of self-consciousness and mindfulness have a positive relationship to adaptation, and can help predict persistence (Evans, Baer & Segerstorm, 2009).

However, there seems to be a gap in the literature on how mindfulness and self-consciousness can affect both adjustment and academic performance in first-year students. Further research needs to be conducted to determine the effects of mindfulness and self-consciousness on adjustment and academic performance of students during the transition period.

1.2 Problem statement

Findings from studies indicate that intelligence and ability are not the only determinants of students' academic success (Law, 2010). A growing body of research suggests that psychological functioning is as important as academic factors in determining psychosocial adjustment to university (Pancer et al., 2000; Wintre & Yaffe, 2000).

According to Pickering, Calliotte and McAulife (1992) non-cognitive variables such as students' attitudes and psychological characteristics have been proven to have more predictive validity on first-year students' retention than cognitive factors such as entrance examination scores and high school results. This is a significant aspect, since student retention has been a concern for institutions of higher learning over the past several decades (Angelo-Riuz & Pergelova, 2013).

As Braxton, Hirschy and McClendon (2011, p. 11) put it, "retention is an issue of importance for individuals (future opportunities), for institutions (financial success, accountability and moral commitment to a supportive environment) and for a nation that strives to develop a workforce and citizenry to support the future". According to Barnes, Macalpine and Munro (2015), studies indicate that other than funding, students' retention and failure rates are leading challenges in institutions of higher learning. Ross and Hammer (2002) were of the opinion that if institutions of higher learning want to increase the number of graduates more attention needs to be paid to the retention of first-year students.

Evidence from literature suggests that in trying to understand student retention, research has focused on institutional practices (Hossler, Ziskin, Moore III & Wakhungu, 2008). Further studies on student retention have focused on the role that institutions of higher learning can play in providing needs-based financial aid for students (Hossler, Ziskin, Gross, Kim, & Cekic, 2008). However, the literature reviewed suggests that students' retention should be seen as "the collective result of individual decisions" (Bean & Eaton, 2001, p. 73). These scholars maintained that "individual psychological processes form the foundation for retention decisions" (p. 73). Bean and Eaton's attitude-behaviour theory explains the effects of psychological factors on students' attrition or persistence.

In their theory, Bean and Eaton (2001) explained how psychological aspects, particularly the attitudes and intentions of the students can influence persistence. They maintain that students come to institutions of higher learning with psychological attributes that have been formed by certain experiences, abilities and self-assessments. Therefore, it is crucial to understand psychological characteristics that increase the likelihood of students remaining and ultimately graduating from an institution of higher learning (Eaton & Bean, 1995).

Accordingly, these psychological attributes create emotional reactions to the institution of higher learning that could motivate the student to engage in adaptive strategies which, if successfully accomplished, yield a sense of ease and integration into the university, which again contributes to persistence (Bean & Eaton, 2001).

The higher education context poses a challenging environment within which students need to perform, and like it is the case with most challenging situations, there is a further need to understand that students also require psychological skills in order for them to adjust (Siddique, LaSalle-Ricci, Glass, Arnkoff & Diaz, 2006). Some authors, for example Brooks and DuBois (1995) indicate that many students at institutions of higher learning do not have the skills to successfully adapt and deal with the challenges and demands they contend with during the adjustment period. Without effective adaptive skills students will have difficulty adjusting and ultimately persisting in an institution of higher learning (Bean & Eaton, 2001). Bland, Melton, Welle and Bigham (2012) asserted that higher education students often use maladaptive coping strategies and lifestyle habits that may exacerbate the effects of academic stress, and that there is a need for interventions that promote more adaptive forms of coping with stress among students in institutions of higher learning. Much of the research on this aspect has been conducted internationally; there is however, a need to understand the role of students' psychological coping skills within the South African higher education context.

In light of the research conducted on self-consciousness among university students (e.g., Aamondt & Keller, 1981; Plant & Ryan, 1985; Schomburg & Tokar, 2002) and mindfulness (e.g., Araas, 2008; Benn, Akava Arel & Roeser, 2012; Evans, Baer & Segerstorm, 2009; Teodorczuk, 2013) and their positive effects on students' affect and behaviour (e.g. Harrington et al. 2014), as well as evidence of the effects of mindfulness and self-consciousness on students' adaptation and persistence (Evans, Baer & Sergerstrom, 2009), the researcher set out to investigate the relationship between self-consciousness and mindfulness, psychological adjustment, as well as academic performance in first-year university students in South Africa.

1.3 Understanding student adjustment in institutions of higher learning

All new students go through an adjustment phase upon entry into a university (Dyson & Renk, 2006). It is crucial that students adjust well to university life as this adjustment is considered to have a positive effect on social interaction and academic achievement of students.

This assertion is also supported by Adler et al. (2008), who maintained that successful adjustment is considered critical for academic success. Successful adjustment to university life is considered a multifaceted process reflected by students' social, academic and personal-emotional adjustment, as well as attachment and commitment to the institution (Baker & Siryk, 1986).

The general hypothesis is that as students adjust to university life and the university environment their efficiency in utilising resources around campus (e.g. student development and support) improves. Their interaction with fellow students and lecturers also improve, and this in turn leads to improved academic performance (Huysamen, 1999). Furthermore, research by Ramsey, Barker and Jones (1999) indicated that students who adjust their expectations towards the realities of the university environment are more likely to commit to studying and complete their academic work. However, problems arise when students struggle to adjust. According to Adler et al. (2008, p. 1281) "poor adjustment correlates with poor academic performance, low graduation rates, and poor success later in life." Students who score low to moderate scores in adjustment are often unable to proceed to the second year of study (Abdallah, Elias, Muhyddin & Uli, 2009). Furthermore, students who are poorly adjusted are three times more likely to drop out of institutions of higher learning (Baker & Siryk, 1986) than those who have adjusted well.

There is a general consensus that social, educational, disciplinary and emotional factors are crucial for students' adjustment to university life (Habayb & Abu Marak, 2009). Cohorn and Giuliano (1999) identified three areas of student adjustment: academic adjustment, social adjustment and personal-emotional adjustment.

- Academic adjustment

Academic adjustment can be defined as having a positive attitude towards setting academic goals, being effective in efforts to meet academic goals, completing academic requirements; as well as being able to function in an academic environment (Baker & Syrik, 1984).

The two scholars maintain that academic adjustment involves more than simply the student's scholarly potential. Accordingly, academic adjustment also includes the student's motivation to learn, making efforts to meet academic demands, a clear sense of purpose, and general satisfaction with the academic environment.

- Social adjustment

According to Mitra, Van Delinder and Von Robertson (2005) social adjustment includes social integration and student institutional fit. Tinto (1993) perceives social adjustment as connecting to the social environment of the university and gaining membership into the campus community. Baker and Syrik (1986) also refer to connecting to the social environment of the university and maintain that the latter has to do with how the student forms an attachment to the institution and relates to the institutional goals – hence some of the most commonly reported symptoms of social anxiety in first-year students include feeling homesick and loneliness (Rich & Scovel, 1987).

- Personal-emotional adjustment

Personal-emotional adjustment pertains to psychological and physical well-being and relates to psychological distress and associated somatic complaints (Baker & Syrik, 1986). Personal-emotional adjustment problems in first-year students in institutions of higher learning may present as psychological distress, somatic distress, low self-esteem, depression and/or anxiety; and have been found to predispose students to dropping out (Pappas & Loring, 1985).

The above categories have been found to play a crucial role in students' overall adjustment (Baker & Syrik, 1986). For example, a study by Elias, Noordin, Mahyuddin and Uli (2009) involving a group of 250 Malaysian university students showed a positive correlation between academic and emotional adjustment, as well as academic achievement. The findings of the study indicated that general university adjustment as well as academic and emotional adjustment can predict high academic achievement. Similarly, the results of a longitudinal study conducted by Gerdes and Mallinckrodt (1994) showed that personal adjustment and social integration play as crucial a role in students' adjustment.

Although these three areas of student adjustment play a crucial role in student adjustment, the scope of this study does not extend to providing a detailed review of all areas of student adjustment. Thus, the current study focused on personal-emotional adjustment, with specific reference to adjustment disorder, depression and anxiety.

The process of adjusting to university life can be overwhelming to many students – and this can lead to emotional maladjustment and depression in students (Wintre & Yaffe, 2000). The literature reviewed indicates that students with personal-emotional maladjustment may experience psychosomatic distress, low self-esteem, depression or anxiety (Pappas & Loring, 1985). Personal-emotional adjustment encompasses psychological and somatic symptoms that can indirectly affect student achievement (Mutambara & Bhebe, 2012). Accordingly, emotionally maladjusted students have been found to perform poorly in their studies in proportion to their intelligence, compared to students who have adjusted well to university life.

Moreover, evidence also suggests that university students suffer from adjustment disorder – resulting in numerous adverse effects including sadness, hopelessness, fighting, concentration difficulties, mismanagement of finances, avoidance of family and friends, as well as diminished school or work performance (Sturmey & Hersey, 2012). It appears that first-year students are more likely to suffer from depression and anxiety, as compared to other students in general. Dyson and Renk (2006) maintained that first-years students experience increased feelings of loneliness, anxiety and depression. The findings further suggest that the transition itself often seems to be the cause of depression, anxiety and stress in university students (Beiter et al., 2015).

Other researchers have also supported the findings of the study by Beiter et al (2015), that transitioning to university brings with it increased levels of stress and anxiety as students attempt to find balance in their new environment (Lamothe et al., 1995). A study conducted in the United Kingdom by Andrews and Wilding (2004) showed that students who do not display symptoms of mental illness at the beginning of their first year at institutions of higher learning often develop symptoms of anxiety and depression by mid-year. The study showed that 9% of the students who were initially assessed were depressed, while 20% of the students started suffering from anxiety as the year progressed.

This is concerning, as research shows that emotional factors can determine how well new students adjust to university life (Habayb & Abu Marak, 2009), and can also have a bearing on their academic performance (Elias et al., 2009).

Furthermore, it seems that the growing number of students who drop out due to poor academic performance can be attributed to the depression and/or anxiety they experience during their time at institutions of higher learning (Fouilloux Morales et al., 2013). The American Psychiatric Association (2000) reported that nearly half of all students in institutions of higher learning report feeling depressed and anxious for the duration of their stay at institutions of higher learning, such that they have difficulties functioning. Hence, the current study explored adjustment disorder on first-year students, with depression and anxiety as comorbid disorders.

1.3.1 Depression in the context of higher education

Freud made a distinction between grief involving an actual loss of something or someone and melancholia, where emotional loss is concerned. The change that comes with moving from the comfort of the home environment to living independently, when moving to an institution of higher learning can be experienced by some students as emotional loss. However, first-year students also seem to experience emotional grief (Brown & Christiansen, 1990).

Accordingly, they mourn the loss of their past identity as high school learners, familiar environments, routines and the social support they counted on. The transition to university life is therefore, most likely to lead to feelings of sadness in first-year students (Dyson & Renk, 2006). This transition and the related factors such as leaving one's home, as well as the possible financial difficulties can even lead to these students being depressed (Al-Busaidi et al., 2011).

Depression has been documented as one psychological disorder that most first-year students are likely to contend with – with 50% prevalence in the student population (Fouilloux Morale et al., 2013) – and has been found to be one of the most common reasons why students visit campus counselling centres (McCarthy, Fouladi, Juncker & Matheny, 2006). The current prevalence of depression in undergraduate students is estimated at 10% (Peluso, Carleton, & Asmundson, 2011).

However, according to Al-Busaidi et al. (2011) studies show that across different countries the prevalence is between 10% and 44%. For example, a study conducted by Al-Busaidi et al. (2011) involving a group of 481 undergraduate university students showed that 27.6% of the students showed symptoms of depression. Kadison and DiGeronimo (2004) also maintained that it is possible that almost one in every two students in institutions of higher learning will become depressed to the point of being unable to function. A study conducted by Bantjes, Kagee, McGowan and Steel (2016) in a group of 1337 South African students showed that depression symptoms in students could lead to suicidal ideation.

Oliver and Burkham (1979) found that more first-year students in institutions of higher learning showed symptoms of depression than students in advanced levels. According to Price, McLeod, Gleich and Hand (2006) research shows that the first year of university attendance can predispose students to depression. Lee (2009) reported that 18.9% of first-year students in the United States of America showed some symptoms of depression.

A study by Furr, Westefeld, McConnell and Jenkins (2001) found that more than 50% of first-year students at institutions of higher learning showed symptoms of depression in the beginning of the academic year. A further study on first-year undergraduate students in Canada found that 7% of male students and 14% of female students met the criteria for major depressive disorder during their first year of study (Peluso et al., 2011). According to Beekman, Cilliers and De Jager (2012) the high prevalence of depression in university students observed elsewhere around the globe is also evident in students in institutions of higher learning in South Africa.

Factors such as financial difficulties, detachment from loved ones (moving to an institution of higher learning), and the demands of campus life are listed amongst some aspects that can be very stressful for students in their first year of study, and can trigger the onset of depression (Price et al., 2006). Khawaja, Santos, Habibi and Smith (2013) asserted that depression in students is a result of internal and external life stressors; including the students' expectations, beliefs, perceptions, as well as academic and interpersonal difficulties. Fouilloux Morales et al. (2013) concurred with this assertion and have identified low academic performance, social stressors, economic problems and other inherent adjustment issues related to the move away from family to an institution of higher learning as some of the causes of depression in university students.

According to Sulaiman (2013), research shows that there is a positive correlation between depressive symptoms and psychological adjustment to university life. Furthermore, depression can have a negative impact on cognitive functioning and can therefore, also negatively affect students' academic performance (Turner, Thompson, Brunner Huber & Arif, 2012). Depression can profoundly affect students' ability to complete self-care activities and also participate successfully in academic life. Depression can hinder decision making capabilities, which can interfere with academic achievement (McCarthy et al., 2006). A nationwide study conducted by the American College Health Association (2009) showed that 43% of college students reported feeling depressed such that it was difficult for them to study. Salami (2010, p. 252) reported that the depressed students were "less intrinsically motivated to learn, they lacked self-control over their studies and were not motivated to show respect for and appreciation to their lecturers". Peluso et al. (2011) concurred with this assertion and maintained that symptoms of depression can compromise learning and memory processes, which could lead to poor academic performance.

The findings of a study conducted by Heiligensensteil and Guenther (1996) showed a positive correlation between depression and academic difficulties among university students, with up to 92% of the participants reporting missing lectures, decreased academic productivity and interpersonal problems on campus. The severity of the symptoms can have an effect on students' academic performance. Turner et al. (2012) stated that students who were found to have major depressive disorders performed poorly as compared to those who experienced mild to moderate symptoms.

However, there are also other concerns related to depression in university students. Alcohol problems and suicidal ideation are often associated with depressive symptoms in students (Peluso et al., 2011). Depression has also been found to be the cause of frequent illnesses (Adams, Wharton, Quilter & Hirsch, 2008) and student dropout (Meilman, Manley, Gaylor & Turco, 1992) among university students. According to Miller and Chung (2009), the prevalence of depression and the growing concern for the risk of suicide has even led to a decision by some colleges in the United States of America to screen first-entering students.

1.3.2 Anxiety in the context of higher education

Anxiety disorders typically start in childhood and adolescent years and can progress to a chronic condition in adulthood, which can impact negatively on several areas of functioning; including academic performance (Spielberger, 1962; van Ameringen, Mancini & Farvolden, 2003; Vitasari et al., 2010). High academic demands as well as personal and family-related problems have been documented as some of the factors that cause anxiety in students (Vatasari et al., 2010) – furthermore, anxiety has been observed to affect a number of learning areas including cognition, performance and mastery of tasks (Noyes & Hoehn-Saric, 1998).

According to Ruffins (as cited in Vitasari et al., 2010), psychological and physiological symptoms of anxiety that were identified in students include:

- Feeling nervous before a tutorial class
- Panicking
- Going blank during a test
- Feeling helpless while doing assignments
- Lack of interest in difficult subjects
- Worry and fear about academic performance
- Blocks of memory, concentration and attention
- Sweaty palms
- Feeling cold
- Nervousness
- Panic attacks
- Fast pace of breathing
- Racing heartbeat; and
- An upset stomach.

The different types of anxiety in university students include for example; test anxiety (Spielberger & Vagg, 1995), separation anxiety (Cooke, Bewick, Barkham, Bradly & Audin, 2006), as well as perfectionism and social anxiety (Kadison & Digeronimo, 2004).

Test anxiety is a widely researched type of anxiety in the student population. According to Spielberger and Vagg (1995) test anxiety can be regarded as a form of trait anxiety that can predispose individuals to experience physiological reactions to stress. Hembree (1988) stated that test anxiety hinders performance due to interfering worry cognitions and physiological responses. A study conducted by Driscoll, Evans, Ramsey and Wheeler (2009) found that 34% of university students struggle with test anxiety. Research findings showed that 15-40% of students feel moderately to highly impaired by exam anxiety (Gerwing, Rash, Allen Gerwing, Bramble & Landine, 2015). About 10% of students suffering from test anxiety require treatment (Shaefer, Matthess, Pfitzer & Kohle, 2007).

Higher levels of anxiety in university students have been reported at the very beginning of their first year (Cooke et al., 2006). This could be attributed to reported high prevalence of separation anxiety disorder (SAD) in first-year students in institutions of higher learning. The American Psychiatric Association (2000) reported high proportions of SAD in university students, which could be attributed to separation from parents or other attachment figures.

Social anxiety was also found to be prevalent in students in institutions of higher learning – social anxiety is a phobia that includes fear of interacting with people, appearing socially-weak or incompetent, and being judged or scrutinised by others. Individuals with social anxiety may display symptoms such as a fear of phoning a stranger; looking people in the eyes (especially people they are not very familiar with); urinating in a public toilet; taking a test measuring their ability, skill or knowledge; disagreeing with someone they do not know very well or showing disapproval; throwing a party; and/or entering a room where others are already seated (Liebowitz, 1987).

Students with high levels of anxiety have been found to perform poorly in their assignments and examinations – and to show lack of interest in learning activities (Vitasari et al., 2010).

In their study Noyes and Hoehn-Saric (1998) explained the dynamics between anxiety and performance as follows:

> Anxiety can change the quality of cognitive performance. Through cognitive distortions which are escalated when a person is anxious, people begin to focus on thoughts that are irrelevant to the task and these cognitive distortions can lead to an escalated feeling of vulnerability, automatic processing and cognitive asymmetry in individuals. The ability to master a situation can reduce anxiety in that situation, however, if a person has not mastered a situation they might have an adverse reaction. For an individual who has not yet mastered a situation, the situation can evoke a sense of fear, loss of control and uncertainty and this might increase anxiety. Whilst mild anxiety has been associated with improvement in performance, high anxiety has been associated with deterioration in performance. Accordingly, "the effect of anxiety on performance depends on the complexity of a task and the degree to which a response has been learned" (p. 25).

1.4 South African higher education context

Prior to 1994 institutions of higher learning were divided – there were institutions that mainly catered for black students as well as those that catered for white people only. Only a few black students (for example, those who performed extremely well, those coming from better socio-economic backgrounds, etc.) were admitted in the white-only institutions of higher learning. This resulted in significantly more white participation in higher education than any other races. Beckham (2000, p. 25) reported that the student population was made up of about 69.7% white, 13% coloured, 40.40% Indian/Asian and 12.10% black. The dynamics changed slightly during the period 1986 to 1993, which saw more black students being admitted into all South African tertiary institutions, whether previously white only or not.

Post-1994 the democratic government in South Africa began initiatives to transform higher education. The National Commission on Higher Education was appointed and released a report, which provided a framework for transformation in education and made recommendations for the transformation agenda (National Commission on Higher Education, 1996).

Initiatives post-1994 in the South African higher education sector were aimed at addressing the historical inequalities at local and national levels – these initiatives included the promotion of access for all and the quest to do away with discrimination within institutions of higher learning (Heymann & Carolissen, 2011).

The need to widen access to all universities in South Africa led to the restructuring of the higher education sector in 2003. Smaller universities were incorporated into larger institutions and previously white institutions opened their doors to students from other races. Matriculating students from all races who obtained university entrance were accepted in any university of their choice in South Africa. The restructuring in 2003 brought the number of public institutions of higher learning in South Africa to 23 – 11 traditional universities, six universities of technology and six comprehensive universities (Department of Higher Education and Training, 2011).

1.5 South African first-year students

Between 1993 and 2001, the number of South African students matriculating increased by a third – from an average of 40% to 60% (Department of Education, 2001). Student enrolments at South African universities also increased by 193 000 between 1993 and 2004 (Cloete & Moja, 2005). This increase in the number of registered university students can also be attributed to the changes in legislation as stipulated in the Department of Education White Paper 3 of 1997, which advocates for equity of access into institutions of higher learning (Department of Education, 1997).

As a result, the student population in institutions of higher learning in South Africa has transformed drastically in terms of race and gender, with an increases in female enrolments from 43% in 1993 to 53% in 2000 (Council on Higher Education, 2000). Statistics show that there has been a decline of 18% in the number of white enrolments, while the number of black enrolments has increased to about 20% (Council on Higher Education, 2000). Currently there are 66% Blacks, 21% Whites, 7% Coloureds and 5% Indian/Asian registered students in institutions of higher learning in South Africa (Department of Higher Education and Training, 2011).

These changes have resulted in an increasingly diverse first-year student population in South African institutions of higher learning. According to Beekman et al. (2012) this diversity is inclusive of three categories of students:

- The first generation students

First generation students are "either students whose parents have no further education after high school or students of parents who have not graduated from a tertiary institution" (Heymann & Carolissen, 2011, p. 1379). According to these scholars, often parents of first-generation students lack the resources, are less involved in the education of their children, and lack the knowledge to assist their children in making the right decisions about their careers. Research conducted in South Africa shows that first generation students are academically and socially unprepared for university life, and has difficulty adjusting and coping (Beekman et al., 2012).

- Students from diverse cultures

The changes in the education sector have made it possible for more students from diverse cultures to enrol in institutions of higher learning of their choice. Speakers of the 11 official languages from the diverse cultures in South Africa are now represented in South African institutions of higher learning. However, in all the institutions of higher learning in South Africa mainly English, and in some instances Afrikaans serves as medium of instruction. This has resulted in students from other language groups other than English, and in some instances Afrikaans, having to adjust to studying in a language that is not their mother tongue.

Several authors (Beekman et al., 2012; Huysamen, 1999) indicate that there are issues of underdeveloped English language proficiency amongst students in institutions of higher learning, which have also been identified as a contributing factor to the poor academic performance of students.

- Students with special needs

There are currently more students with special needs registering in South African institutions of higher learning than before. Students with special needs are those with mental and physical disabilities.

Accordingly, the increased capacity of South African institutions of higher learning to cater for the needs of these students has seen an increase in the enrolment of such students (Beekman et al., 2012). Other categories of students that have been identified in the South African context are students infected and affected by HIV/AIDS, students exposed to psychological trauma, mature students and also homosexual, bisexual and transgendered students (Beekman et al., 2012).

1.5.1 South African first-year students: Factors affecting academic performance and student retention

According to Letseka and Maile (2008) many South African students struggle when they come to institutions of higher learning. There is evidence of a significant number of students who do not perform well in their first year in institutions of higher learning. Woollacott (as cited in Seabi & Payne, 2013) reports a failure rate of between 40% and 55% among first-year students in South Africa. Local institutions of higher learning are therefore, faced with an increasingly difficult task of assisting students who struggle with successful transition into the university environment (Deen & Leonard, 2015).

Factors that contribute to the high failure rate of first-year students have been found to be multifaceted – evidenced not only by poor academic performance, but also by a high dropout rate (Sosibo & Katiya, 2015; Letseka & Maile, 2008). About a third of first-year students in South Africa drop out by the end of their first academic year (The Department of Education, 2005). This has had a bearing on the overall graduation figures in South African institutions of higher learning, which is currently at a rate of 15% (Letseka & Maile, 2008). According to Lewin and Mawoyo (2014) only 27% of undergraduate students complete their studies within the minimum allocated time.

The Department of Higher Education and Training (2012) maintained that these challenges, faced by first-year students in institutions of higher learning in South Africa, are indicative of the country's political history, and highlights the discrepancies in the political, economic and social classes of people from different communities in the country.

The increase in equity of access into institutions of higher learning has resulted in an increase in the number of enrolments of students from historically disadvantaged backgrounds in such institutions. However, with equity in access came other challenges for institutions of higher learning, as well as for registered students.

For example, statistics provided by the Department of Higher Education and Training (2011) showed that even though there are more black students enrolled in the public institutions of higher learning as compared to other population groups, the percentage of black students who complete their studies is still low. The majority of these students are economically and educationally disadvantaged, posing a challenge to universities to retain and graduate these disadvantaged students (Petersen, Louw & Dumont, 2009). For example, many students come from poverty-stricken backgrounds and are not able to pay for their fees – as a result, they find themselves having to rely on the National Student Financial Aid Scheme (NSFAS), and become indebted to the scheme upon graduating (Letseka & Breier, 2008).

The poverty experienced by these students is seen as a major cause of low throughput rates in institutions of higher learning; as a high percentage of these students tend to drop out of tertiary institutions (Letseka & Breier, 2008). A study conducted by Bojuwoye (2002) on factors affecting South African first-year students' adjustment showed that financial difficulties and lack of adequate financial support were among the main causes of stress for students. This is evident also in the number of student protests due to limited funding (Walton, Bowman & Osman (2015). These economic factors create a burden and can distract students, who spend time trying to secure funds when they could be using that time more efficiently by focusing on their studies (Delvare, 1995).

There is furthermore, a real concern that having students from previously disadvantaged backgrounds can undermine initiatives that were taken to improve access to institutions of higher learning; especially since research indicates that students from previously disadvantaged backgrounds have contributed to the low throughput rates in South African institutions of higher learning (Beckham, 2000).

International and local research has also shown that first-generation students enrolled in institutions of higher learning as well as black students who find themselves at historically-white campuses are less likely to perform well and be retained (Beekman et al., 2012).

The findings indicate that financial instability, poor familial support, low self-esteem and difficulty adjusting contribute to the latter (Stephens, Hamedani & Destin, 2014).

However, there are other context-related factors that contribute to the difficulties experienced by first-year students in institutions of higher learning in South Africa – such as structural/buildings problems at various institutions of higher learning, challenges related to issues in the management, staffing and curriculum at universities, as well as student funding (Department of Higher Education and Training, 2012). Studies such as the one conducted by Mokgokong (2009) support this assertion and highlight numerous challenges experienced by first-year students once they have registered in South African institutions of higher learning, such as inadequate preparation for higher education, poor study skills, difficulties of using English as a medium of instruction, financial problems, social and family problems, lack of effective teaching skills, as well as institutional lack of student support. Similarly, a study conducted by McGhie (2012) showed that there are personal factors (such as lack of accommodation, lack of support and lack of motivation), academic factors (such as managing the academic workload), social factors (such as choice of friends) and institutional factors (such as financial, human and infrastructure resources) that impact on first-year students' academic progress.

Even so, Lau (2003) cautioned that there are various reasons why students drop out of institutions of higher learning – there is therefore, a need to look not only at institutional factors but individual factors as well. Boughey (2010) advocated the importance of not only focusing on the academic potential of these students, but on various variables as well, including psychological variables. This assertion is supported by Fraser and Killien (2005), who maintain that although predictions of success in institutions of higher learning is largely based on matric results as an indicator of the students' potential for success, there is a need to understand cognitive abilities as well as psychological factors.

1.5.2 South African higher education students: Psychological factors

Although a study conducted by Bojuwoye (2002) showed that first-year students in institutions of higher learning in South Africa attribute less of their stress to personal, psychological and social factors as compared to financial factors, physical environmental factors, university administrative processes and academic demands, other studies have shown that personal/psychological factors can have a bearing on the academic success of students in institutions of higher learning in South Africa. For example, a study conducted by Fraser and Killien (2005) involving 636 students and 32 lecturers form the University of Pretoria and University of South Africa showed that students' success or failure could be related to the perception they have regarding their chances of success or failure, as well as motivational and personality factors.

The results of their study demonstrated that among other factors, individual factors such as commitment to career goals, high self-efficacy, internal locus of control, putting in consistent efforts, as well as self-discipline and self-motivation contribute to student success.
Another study conducted by Ngidi (2007) at the University of Zululand regarding factors that might contribute to students' academic success found that both students and lecturers were in agreement that a lot can be attributed to how students themselves approach the academic environment. Mokgokong (2009) concurred, and maintained that poor attitudes towards one's studies most often lead to poor academic performance.

1.5.3 South African first-year students: Psychological factors and adjustment

A study conducted by McGhie (2012) on a group of first-year students at Stellenbosch University showed that 50% of the students reported adjustment difficulties during the transition into the university. Evidence from research suggests that the adjustment of first-year students in South African institutions of higher learning can be affected by psychosocial factors such as help-seeking, academic motivation, self-esteem, academic overload, self-efficacy, perceived social support as well as perceived stress (Sommer, 2013). In his study on the psychosocial factors predicting the adjustment and academic performance of students in institutions of higher learning in South Africa, Sommer (2013) confirmed that there is a direct correlation between the psychosocial variables listed above and students' adjustment and academic performance.

Similarly, the findings of a study conducted by Petersen, Louw and Dumont (2009) involving a group of 465 students at the University of Cape Town indicated that psychosocial variables such as help-seeking, academic motivation, self-esteem, academic overload, self-efficacy, perceived social support, as well as perceived stress could better explain students' adjustment to university than academic performance. The study found that psychosocial variables explained as much as 59% of students' adjustment and 20% of students' academic performance. Therefore, there could be benefits in identifying the psychosocial factors that could be related to adjustment and academic performance in first-year students in institutions of higher learning (Strydom & Mentz, 2010).

Moreover, studies involving South African students such as the one conducted by Tom (2015), involving first-year students at the University of Limpopo indicated that coping and coping resources could assist first-year students with adjustment.

Even though there are emerging studies on mindfulness and adjustment (e.g. Teodorczuk, 2013), there seems to be few studies conducted on students' levels of self-consciousness in South African universities. Therefore, the present study attempted to address these gaps and sought to add to the current body of knowledge on psychosocial variables that contribute to first-year students' adjustment and academic performance.

1.6 Research aims

It is clear that the effects of both mindfulness and self-consciousness on adjustment and academic performance in students transitioning from high school to institutions of higher learning have not been sufficiently researched.

First, this research aimed to ascertain how and to what extent self-consciousness and mindfulness can affect the adjustment and academic performance of students in institutions of higher learning in South Africa.

Second, the research was conducted in order to fill the gaps in the existing body of knowledge on the possible effects of mindfulness as described by Brown and Ryan (2003), as well as self-consciousness as described by Scheier and Carver (1985) on university students during their first year of study.

Third, the study aimed to investigate the relationships between mindfulness, self-consciousness, adjustment and academic performance of first-year university students.

The fourth aim of this research was to explore how different levels of anxiety and depression affect first-year students' adjustment and academic performance.

Finally, the research aimed to provide empirical data, which would contribute to the existing body of knowledge on the effects of mindfulness and self-consciousness in university student populations, which will determine whether or not they complete their studies successfully.

1.7 Research questions

Based on the general aims of the study discussed in the previous section, the study attempted to answer the following research questions:

- Are first-year students' levels of self-awareness in terms of mindfulness and self-consciousness affecting their levels of anxiety and depression and experienced adjustment disorder symptoms?

- Are adjustment variables (depression, anxiety and adjustment disorder symptoms) impacting on the academic performance of first-year students?

- Are students' levels of self-awareness in terms of mindfulness and self-consciousness affecting their academic performance during the first year of study?

- Are there differences in terms of the impact of the independent (mindfulness and self-consciousness) variables on the dependent variables (adjustment disorder symptoms, depression, anxiety and academic performance)?

- Are adjustment variables (adjustment disorder symptoms, depression and anxiety) mediating the effect of the independent variables (mindfulness and self-consciousness) on students' academic performance (mean of marks)?

1.8 Significance of the study

The focus of the research was on the factors affecting the academic performance of first-year students in institutions of higher learning in South Africa. However, limited research on student adjustment could be found. The current research is significant in that it may bring about insight in understanding the effects of mindfulness and self-consciousness and their relationship to university students' adjustment and resultant impact on their academic performance.

The departments of student development and support in South African institutions of higher learning seek to equip students with skills that will help them cope with the demands of studying at tertiary level. Developing the whole student and being student- centred requires that personnel in these departments be sensitive to the different needs of students (Biggs, 1999; Wolf-Wendel & Ruel, 1999). The findings of the current research could be significant in that they will:

- Provide valuable information with regards to the experiences of South African students in institutions of higher learning, with regards to adjustment, with a specific focus on adjustment disorder, depression and anxiety levels;
- Assist in determining the possible role of self-awareness skills, with specific reference to mindfulness and self-consciousness and the relationship to adjustment and academic performance of first-year university students;
- Help inform the role of self-consciousness and mindfulness skills in first-year university students' orientation/first year programmes.
- Serve to inform current and future developments, enhancement or refinement of students' support and development programmes aimed at first-year students.

1.9 Research hypotheses

The researcher formulated the following main hypotheses:

H1= High scores in mindfulness have a positive correlation to the adjustment of first-year students.

Mindfulness negatively correlates with adjustment disorder symptoms, depression and anxiety – that is, students with higher levels of mindfulness are less likely to experience difficulties in adjusting, and that translates into few symptoms of adjustment disorders, as well as lower levels of depression and anxiety.

H0= There is no significant difference between first-year students with high scores in mindfulness and those with low scores in mindfulness in terms of their adjustment. There are no differences between levels of mindfulness, adjustment disorder symptoms and depression and anxiety levels.

H2= High scores in self-consciousness have a positive correlation to the adjustment of first-year students. Students with higher levels of self-consciousness are less likely to have difficulties adjusting; and this translates into less prevalent incidents of depression and anxiety.

H0= There is no significant difference between first-year students with high scores in self-consciousness and those with low scores in self-consciousness in terms of their adjustment. There are no differences between levels of self-consciousness, adjustment disorder symptoms and depression and anxiety levels.

It must be stated that with regards to hypothesis 2 (H2) and hypothesis 4 (H4) below regarding the construct of self-consciousness, the instrument used to measure self-consciousness in the study has sub-scales of private self-consciousness, public self-consciousness and social anxiety, which allow for a more detailed interpretation of the findings. Based on the latter, the following hypotheses are formulated:

- Private self-consciousness

Private self-consciousness correlates positively with adjustment and academic performance.

- Public self-consciousness

Public self-consciousness correlates negatively with adjustment and academic performance.

- Social anxiety

Social anxiety correlates negatively with adjustment and academic performance.

H3= There is a direct correlation between first-year students' adjustment and academic performance. Therefore, depression, anxiety and adjustment disorder symptoms correlate negatively with their academic performance.

H0= There is no correlation between first-year students' adjustment and academic performance. Therefore, there is no correlation between depression, anxiety and adjustment disorder symptoms and academic performance.

H4= High scores in mindfulness have a positive correlation to the academic performance of first-year students. Students with higher scores in mindfulness are more likely to perform better academically.

H0= There is no significant difference between students with high scores in mindfulness and those with low scores in terms of their academic performance.

H5= High scores in self-consciousness have a positive correlation to the academic performance of first-year students. Students with higher levels of self-consciousness are more likely to perform better academically.

H0= There is no significant difference between students with high scores in self-consciousness and those with low scores in terms of their academic performance.

H6= Mindfulness will impact or mostly predict students' adjustment and academic performance than self-consciousness.

H0= There will be no significant difference between the impact of levels of mindfulness and self-consciousness on students' adjustment and academic performance. That is, mindfulness and self-consciousness will equally predict students' adjustment and academic performance.

H7=Adjustment disorder symptoms, depression and anxiety mediate the effect of mindfulness and self-consciousness on students' academic performance.

H0= No significant mediation effect will be observed in the relationship between mindfulness, self-consciousness, adjustment disorder variables (adjustment disorder symptoms, depression and anxiety) and academic performance.

1.10 Scope of the research

The current study drew from two fields in psychology, namely developmental psychology and psychopathology.

The study focused on the development of South African first-year students upon entry into an institution of higher learning; and the emotional/psychological adjustment difficulties experienced during the transition from high school to university. Specifically, the study looked at students' adjustment disorder symptoms, depression and anxiety, as well as mindfulness and self-consciousness as coping resources.

However, due to resource constraints the study did not cover all first-year students in South African institutions of higher learning – only students from Tshwane University of Technology (TUT) in South Africa formed part of the study. Therefore, the study investigated the impact of mindfulness, self-consciousness on adjustment (that is, adjustment disorder symptoms, depression and anxiety) and the subsequent impact on academic performance (mean of students' marks). The sample consisted of first-year students from TUT. The participating students were registered students in the Faculty of Economic Management Sciences as well as the Faculty of Management Sciences. The sample consisted of South African male and female first-entering, first-year students of all races from the ages of 18, registered in the Pretoria and Ga-Rankuwa campuses.

1.11 Definition and a brief discussion of key terms

1.11.1 Self-awareness

According to Kessel, Cole and Johnson (1992, p. 22), self-awareness is similar to "knowledge of the knowledge of the self".

Locke (as cited in Gallagher & Shear, 1999) defines self-awareness as a reflection upon ourselves, making ourselves objects of contemplation, while Benbassat and Baumal (2005, p. 156) defined self-awareness as "an individual's tendency to pay attention to his or her own emotions, attitudes, and behaviour in response to specific situations." It allows individuals an opportunity to develop a deep understanding of themselves through self-reflection and thoughtfulness, and identify and understand their strengths, weaknesses, values and motives (Goleman, 1997). Self-awareness is being conscious of various self-identities – it is an evaluative component of aspects of the self by observing those aspects of the self accurately and objectively (Hall, 2004).

Self-awareness seems to be the foundation for effectively managing emotions. According to Goleman (1997), self-awareness is an integral component of emotional intelligence that has been linked to self-confidence, realistic self-assessment, as well as a self-deprecating sense of humour. There seems to be a positive relationship between self-awareness and awareness of a discrepancy between an individual's current state, which in turn promotes behaviour to minimise the discrepancy (Carver & Scheier, 1981).

1.11.2 Self-consciousness

Self-consciousness is defined as consistent attention directed at the self (Fenigstein, Scheier & Buss, 1975). It is acute knowledge and understanding of the self and therefore, includes knowledge and understanding of the internal and external attributes of the self. Self-consciousness entails a cognitive process that is utilised by individuals to look at aspects of the self through self-evaluation (Brown & Ryan, 2003).

Self-consciousness has been found to affect the encoding and retrieval of accessible knowledge about the self, which influences how we perceive ourselves, our emotions as well as our behaviour (Hull, van Treuren, Ashford, Propsom & Andrus, 1988).

1.11.2.1 Dimensions of self-consciousness

Peacocke (2013, p. 1) argued that self-consciousness is often seen to "apply to a subject who is in any mental state involving first person content" – yet, there are several types of self-consciousness. Accordingly, there are three types of self-consciousness identified by Peacock namely:

- Reflective self-consciousness, which is a "distinctive knowledge that one is in a certain kind of conscious mental state, or enjoying a certain sort of conscious mental event" (p. 2);
- Perspectival self-consciousness, which is "the ability to know things about oneself in ways that are not fundamentally tied to the first person, ways in which one can come to know things about other subjects too" (p. 2); and
- Interpersonal self-consciousness, which is the "awareness that one features, oneself, in another person's consciousness" (p. 2).

However, in the context of dispositional self-consciousness Fenigstein et al. (1975) maintained that there are two types of self-consciousness, namely private self-consciousness and public self-consciousness. Accordingly, private self-consciousness and public self-consciousness represent facets of dispositional self-directed attention (Jostes, Pook & Florin, 1999). Private self-consciousness is composed of the internal state awareness and self-reflectiveness, while public self-consciousness is composed of style consciousness and appearance consciousness.

- **Private self-consciousness**

The construct of private self-consciousness was developed by Feningstein et al. (1975) and indicates a dispositional tendency to focus on one's inner experiences such as thoughts, feelings and physical sensations. Private self-consciousness involves what we think of ourselves and our understanding of our private characters.

Nasby (1989) explained that private self-consciousness is a habitual attentiveness to covert aspects of the self that other people cannot see. It refers to the tendency to focus attention on private, internal experiences such as desires, emotional states, thoughts and physical sensations (Fenigstein et al., 1975).

Accordingly, it is a tendency to focus on internal aspects such as subjective feelings, thoughts, goals, intentions, motives, plans and values (Nasby, 1989).

There is evidence of a positive correlation between psychological health and aspects of private self-consciousness (Trapnell & Campbell, 1999). According to Franzoi, Davis and Markwiese (1990), people who score high on private self-consciousness are more sensitive to self-defining information and more responsive to self-knowledge with regards to aspirations, motives and goals. People who score high in private self-consciousness pay more attention to their aspirations and depend on other people to affirm their desired self-image; and are thus associated with autonomous regulation (Schlenker & Weigold, 1990). Private self-consciousness is made up of two aspects, namely self-reflectiveness and internal state awareness.

Self-reflectiveness

Self-reflectiveness can be defined as the tendency to constantly think about one's motivations for actions (Harrington & Loffredo, 2007). Research has indicated a positive relationship between self-reflection and mild psychopathology and excessive rumination (Trapnell & Campbell, 1999). Self-reflection has furthermore, been linked to higher prevalence of trait anxiety, depression and lower self-esteem (Anderson, Bohon & Berrigan, 1996).

Internal state awareness

Internal state awareness can be defined as general awareness of one's inner feelings and knowledge of how one's mind works (Harrington & Loffredo, 2007). Harrington and Loffredo conducted their research on the impact of self-reflectiveness and internal state awareness on psychological well-being and found that while the two variables are aspects of private consciousness, only internal state awareness was seemingly, positively linked to psychological well-being.

Trapnell and Campbell (1999) asserted that psychological wellbeing is linked to an aspect of private self-consciousness referred to as reflection. The findings of their study differentiated between rumination and reflection. They regarded rumination as "self-attentiveness motivated by perceived threats, losses or injustices to the self", while reflection is perceived as "self-attentiveness motivated by curiosity or epistemic interest in the self" (1999, p. 297).

Rumination has been found to be negatively associated with psychological wellbeing, while reflection has been positively associated with low levels of depression and anxiety, as well as openness to experiences, which lead to adaptability and adjustment (Fleckhammer, 2004).

- **Public self-consciousness**

Public self-consciousness involves the perception we have about ourselves – which is influenced by how others see us. It is a habitual attentiveness to the overt aspects of the self that others can see and evaluate (Nasby, 1989). It refers to a more public image of the self as seen by others and therefore, entails the observable characteristics of the self, such as appearance, and how we behave in the company of others (Fenigstein et al., 1975). Public self-consciousness looks at the self as a social object.

1.11.3 Mindfulness

There seems to be no clear operational definition of the term mindfulness (Rapgay & Bystrisky, 2009). Grabovac, Lau and Willet (2011) concurred that there is still a need for a clear operational definition of mindfulness; whether as a state, a trait or a skill. However, there are common definitions of mindfulness in literature.

Mindfulness can therefore, be regarded as a process that involves four components in dealing with moment-to-moment life experiences, which are:

- Awareness (of a stimuli or events)
- Attention (to the event/ experience at that moment)
- Self-regulation (directing attention); and a
- Non-judgmental approach (towards one's own thoughts and feelings).

The definitions of mindfulness can be three-fold:

- Mindfulness as a state (a moment of mindfulness)
- Mindfulness as a trait (having higher levels of mindfulness even without formal training), and
- Mindfulness as a skill (that can be acquired through practice).

Brown and Ryan (2003) defined mindfulness as a trait of consciousness that has been studied extensively in the field of psychology due to its positive relationship to wellbeing. According to Shapiro, Oman, Thoreson, Plante and Flinders (2008, p. 841), mindfulness is "an intentional and non-judgmental awareness of moment-to-moment experiences." Mindfulness is thus an enhanced attentiveness and awareness of a particular experience and can be regarded as a sustained consciousness of experiences (Brown & Ryan, 2003). According to Shear and Jevning (1999), mindfulness is a perceptual process involving various contents of consciousness. Brown, Ryan, and Creswell (2007) were of the opinion that the processes of awareness and attention are fundamental in mindfulness – where the first step is awareness, which is a conscious registration of a stimulus; and if the stimulus is strong enough then attention is engaged. It is a present-centred awareness of the individual's thoughts and feelings as he or she pays attention to them, acknowledges and accepts them without being judgmental of them (Trousselard, Steiler, Claverie & Canini, 2012). Germer, Siegel and Fulton (2005) asserted that mindfulness is about awakening to the present moment and focusing one's attention to the events of the moment.

However, mindfulness is not just about the self-regulation of attention, but is also about developing a certain perspective on one's experiences at that moment. According to Bishop et al., (2004), mindfulness is a three-part self-regulation of the attention process – it comprises sustained attention, attention switching as well as the inhibition of elaborative processing. Bishop et al. (2004) regarded mindfulness as a metacognitive skill that allows for the monitoring and controlling of what is being processed by the individual.

1.11.4 Adjustment

The current study investigated adjustment in the context of adjustment disorders. An adjustment disorder is characterised by an emotional response to a stressful event (Sadock & Sadock, 2007). It is a maladaptive reaction to an identified stressor, which often manifests in the first few months (not exceeding six months) of the onset of the particular stressor (Nevid, Rathus & Greene, 2000). Maercker, Einsle and Kollner (2007) defined adjustment disorder as a maladaptive reaction to a noticeable psychosocial stressor or a change in life conditions, which starts within three months of the onset of the stressor or life condition.

The severity of the stressor on the individual is "a complex function of degree, quantity, duration, reversibility, environment, and personal context" (Sadock & Sadock, 2007, p. 786). Adjustment disorder is time-limited and entails situation-dependent reactions to stressor(s) (Sturmey & Hersen, 2012).

The stressors might be caused by a developmental (e.g., loss of a loved one), or situational (e.g., changing schools) transition, or might be caused by a combination of various stressors that one has been exposed to in a certain period of time (Sarason & Sarason, 1993). A person with an adjustment disorder has most likely not adapted as well as the average person to one or more stressors that might have occurred in the past three months.

The development of an adjustment disorder is not necessarily dependent on the severity of the stressor – however, often times it is dependent on personality characteristics and cultural and/ or group norms of the individual (Sarason & Sarason, 1993).

Adjustment disorder as specified in the Diagnostic Statistical Manual V (DSM V) has sub-types of depression, anxiety, disturbance of conduct, a mixed disturbance of emotions and conduct as well as unspecified sub-type (Nevid et al., 2000). However, for the purpose of this study the researcher focused on adjustment disorder as outlined in the DSM V, with specific interest on depression and anxiety as co-morbid disorders.

According to Shamsuddin et al. (2013), depression, anxiety and stress are the most common psychological disorders experienced by university students. Olivier, Reed and Smith (1998), also note that high levels of anxiety and depression are associated with emotional problems and difficulties adjusting to university life. Al-Qaisy (2011) was also of the view that depression and anxiety can occur concurrently, and are ranked first and third as presenting problems in university students all over the world.

1.11.5 Depression

The term depression is commonly used in everyday language to refer to a range of experiences; from a slight negative change in mood to complex, impairing, and even at times life-threatening conditions (Hammen & Watkins, 2008).

Depression has come to be understood as a reaction to life events that are upsetting, or at least perceived by the individual as upsetting. This feeling of being upset or dysphoria often persists for days or even months for the individual. Depression can therefore, be defined as a disorder of the mood, which is characterised by a pathologically low mood (Hansel & Damour, 2005).

According to the American Psychiatric Association (2000) a major depression disorder is a serious mood disorder characterised by feelings of sadness, worthlessness, excessive guilt experienced nearly every day, significant changes in eating patterns, poor concentration, low energy levels, sleep disturbances and diminished interest or pleasure in activities that were previously enjoyed. A distinction is often made between depression as a mood and depression as a syndrome, with the latter including an additional set of persistent impairing symptoms (Gotlib & Hammen, 1992).

Sadock and Sadock (2007) state that for one to be diagnosed with a major depressive episode the symptoms must persist for at least two weeks, and must exhibit at least four symptoms from the symptoms list. Accordingly, the list includes "changes in appetite and weight, changes in sleep and activity, lack of energy, feelings of guilt, problems thinking and making decisions, and recurring thoughts of death or suicide" (pp. 527-528). The symptoms of depression from the initial episode can persist for six months or longer (Hysenbegasi, Hass & Rowland 2005), and in some cases the symptoms can continue without remission for many years (Peluso et al., 2011).

Montgomery (1990) maintained that there are two subcategories of depression. The first subcategory is retarded depression. In this subcategory the symptom mainly identified is psychomotor retardation, but can also include poor concentration, loss of energy, loss of interest and loss of sleep and appetite. According to Montgomery, retarded depression has been found to be the most reactive to treatments, resulting in good prognosis. The second subcategory is agitated depression, and is not commonly noticeable amongst depressed individuals. This type of depression is mainly identified as restlessness. According to Montgomery, this subcategory is prevalent in about a quarter of moderately or severely depressed individuals, with some severely depressed individuals presenting both the symptoms of agitated and retarded depression.

The World Health Organization has declared depression as one of the most common health problems in the western world (Gilbert, 2005).

It is one of the most encountered emotional disorders in both the general public and the clinical population (Al-Busaidi et al., 2011). In the same manner, the Global Burden of Disease Study (cited in Turner et al., 2012) declared depression as the world's highest cause of disability.

Depression is one of the most common mental health conditions that people contend with during adulthood (Waraich, Goldner, Somers & Hsu, 2004), and affects over 121 million individuals worldwide (World Health Organization, 2008). There seems to be a higher prevalence of depression in women than in men (10-25% for women and 5-12% for men) (The American Psychiatric Association, 2010). The current mean age for the onset of depression is between 20 and 25 (Hammen & Watkins, 2008). According to the American Psychiatric Association (as cited in Peluso et al., 2011) depression is a disorder that can disrupt an individuals' functioning (occupational, social and physiological) for many years.

Sarason and Sarason (1989) identified a number of risk factors responsible for the development of depression, namely **gender** (accordingly, females are more at risk of developing depression than men), **age** (people are more at risk of developing depression in the ages from mid- to late twenties), **divorce** (people who are separated or divorced have been found to have the highest depression rate), a **family history of depression,** and a **pile up of stressful events in a short period of time.**

The Centres for Disease Control and Prevention (2009) concurred with the last assertion and included traumatic childhood experiences, substance abuse (including nicotine and/or alcohol), lack of social support; and low socio-economic status.

Even though depression is a widely-known subject, and the treatment options are widely available, the condition is often under-diagnosed and under-treated (Al- Busaidi et al., 2011). Montgomery (1990, pp. 9-10) identified the following as contributing factors to the under-diagnosis and under-treatment of depression:

- Lack of insight on the part of the individuals experiencing the depression. Accordingly, most people are still unable to recognise the symptoms in themselves, which makes it difficult for them to seek treatment.

- Stigma attached to depression. As with many psychiatric illnesses, people diagnosed with depression suffer from prejudice. Accordingly, people with depression are expected to "pull themselves together" and are judged for not being able to pull themselves out of the depression.

- Cultural factors. Accordingly, in many non-western cultures depression is seen as a foreign concept – this makes it difficult for individuals to accept the diagnosis. In non-western cultures people would rather have a physical illness than be diagnosed with depression.

1.11.6 Anxiety

Anxiety is a term that encompasses various disorders that centre on excessive irrational fear and dread (National Institute of Health, 2009). Anxiety and fear are often used interchangeably (Wolman & Stricker, 1994). However, unlike fear, anxiety is seen as a combination of affective, cognitive, somatic and motor interaction. Anxiety may be defined as "a tense emotional state characterized by a variety of sympathetic symptoms including, for example, chest discomfort, palpitations, and shortness of breath" (Wolman & Stricker, 1994, p. 76). It is a "diffuse, unpleasant, vague sense of apprehension, often accompanied by autonomic symptoms such as headache, perspiration, palpitations, tightness in the chest, mild stomach discomfort, and restlessness, indicated by an inability to sit or stand still for long'' (Sadock & Sadock, 2007, p. 579).

Anxiety is seen as being two fold – that is it presents as extreme emotional fear and physiologic hyper arousal (Vitasari et al., 2010). It entails the 'fight or flee'' reaction – a necessary psychophysiological reaction to situations that might be threatening to the individual. According to Hansel and Damour (2005, p. 112), the following can be regarded as common components of anxiety:

- Emotional components; including symptoms such as fright, nervousness and irritability

- Cognitive components; including symptoms such as hyper vigilance, poor concentration and rumination

- Behavioural components; including symptoms such as "fight or fright" response, freezing up and avoidant behaviour; and

- Physical components; including muscle tension, pounding heart and a dry mouth.

Similarly, Kowalski (cited in Carlstedt, 2010, p. 311) explained that anxiety can be understood as a "human emotion that can be characterized by increased autonomic activity, subjective feeling of tension, cognitions involving fear and worry, and sometimes even behaviours like verbal incoherence, avoidance of anxious stimuli, motor immobility or tremor." It is often described as an unpleasant feeling associated with a general sense of fear relating a message that something bad is going to happen (Hansel & Damour, 2005).

Josephs (cited in Wolman & Stricker, 1994) perceived anxiety as either a symptom (result) of psychological tension (that is, one becomes anxious due to a perceived stimulus) and/or as a cause of psychological tension (that is, one begins to have other symptoms due to already existing anxiety). Even so, anxiety is not necessarily abnormal – in certain contexts anxiety can be seen as normal. Montgomery (1990) agreed with the concept of normal anxiety and considers it useful for one to accomplish the necessary day-to-day tasks. Under certain circumstances anxiety can assist us in seeking resources that might increase our performance (Vitasari et al., 2010).

Although the general consensus is that anxiety can sometimes be considered a normal reaction, it can be abnormal in certain instances; to a point of impairing normal functioning. The intensity and the context of the anxiety determine whether it is normal or abnormal – that is, anxiety is often considered abnormal if it is overly intense and inappropriate for the context (Hansel & Damour, 2005). According to Sarason and Sarason (1989, p. 145), the feeling of "intense anxiety may occur after an event has taken place, in anticipation of a future event, or when a person decides to resist a preoccupying idea, change an undesirable aspect of behaviour, or approach a fear-arousing stimuli."

Depending on the extent of the exposure to the anxiety-provoking stimuli (how unpleasant or painful the stimuli is) some important situations/environments or even people can be avoided.

However, the degree and level of anxiety vary from individual to individual, and individuals react differently to different situations.

According to Kessler (as cited in Carlstedt, 2010) anxiety can be highly persistent; highly comorbid with other disorders such as mood disorders associated with considerable loss of productivity and neglecting one's responsibilities. Anxiety has an early onset age estimated as 15; and has as its aetiology a number of cognitive and physiological factors.

The actual etiology of anxiety disorders is not fully known – however, factors such as genetics, brain chemistry and traumatic experiences have been documented as causes (American Psychiatric Association, 2000). Gross and Hen (2004) corroborated the role of differences in the brain composition as well as environmental factors in the development of anxiety.

Anxiety has two sub-types; namely **state** and **trait** anxiety (Carducci, 2009). According to Edelmann (1992), state anxiety is transitory and trait anxiety is relatively stable.

State anxiety is the type of anxiety experienced during moments of tension, whereas trait anxiety is a characteristic that is inherent – that is, some individuals are more prone to having anxiety than others (Carducci, 2009). Speilberger (1966) concurred with both assertions, that state anxiety is transient in nature – and is reflective of environmental and/or situational factors – whereas trait anxiety is an inherent aspect of one's personality that is unaffected by environmental and/or situational factors. Wolman and Stricker (1994, p. 5), in describing trait anxiety, held that "anxiety-ridden individuals are continuously unhappy, worrisome and pessimistic of existing or non-existing dangers."

1.11.7 Academic performance

In the current study academic performance has been defined and assessed as the student's academic results obtained in specific modules for the specific course registered for. The participating students' academic transcripts were used to determine the variable (academic performance). Successful performance was set at an average of 50% or higher in all registered modules.

This is in alignment with the South African Higher Institutions' requirements, which stipulate that students need to obtain an average of at least 50% in order to successfully complete a module.

Accordingly, research shows that academic marks are a good predictor/measure of academic performance (Goldman, Flake, & Matheson 1990). According to Tomlinson-Clarke (1998) students' grades or results also serve as a good measure of academic adjustment for university students.

1.12 Outline of chapters

Chapter one introduces the concepts of self-consciousness and mindfulness in relation to students' adjustment and academic performance of students in institutions of higher learning in South Africa. The existing literature on the experiences of first entering, first-year students transitioning from high school to institutions of higher learning, as well as factors affecting adjustment and academic performance of these students was reviewed. The South African higher education context and the related factors impacting on the adjustment of first-year students were also discussed. The significance and aims of the study were also outlined.

The remainder of this study is divided into five chapters. Chapter two focuses on the theoretical underpinning of the study. This includes a review of the literature on the relevant developmental models of student development.

Chapter three focuses on an in-depth review of the literature on mindfulness and self-consciousness as components of self-awareness with a specific focus on students' coping within the context of institutions of higher learning.

Chapter four outlines the research methodology used to answer the research questions. The chapter presents the research design as well as describe the steps followed in conducting the research, the target population, and sample size considerations. The chapter also includes a description of measuring instruments used in the study, as well as methods of data analysis.

Chapter five reports on the findings of the study, outlining both significant and non-significant findings. Descriptive as well as inferential statistics are also presented. Finally, the chapter reports on the results of the hypothesized relationships between mindfulness, self-consciousness, adjustment and academic performance.

Chapter six gives a comprehensive discussion of the findings of the study, its implications and recommendations for future research. The limitations and strengths of the study are also discussed. The chapter concludes with a summary of the major findings.

CHAPTER TWO

THEORETICAL FRAMEWORK

2.1 Introduction

It is important to provide a clear theoretical framework for the context of the current study. This will provide a better understanding of the methodological and empirical issues that are covered in the chapters that follow.

The current chapter discusses student development theories. These are diverse theories that have emerged, based on research conducted on the experiences of students in institutions of higher learning. Particularly, the chapter focuses on the experiences of first-year students and the process of adjustment, which Zeller and Mosier (1993) maintained has a predictable pattern of five stages. Accordingly, this is a *W-Curve,* which starts with a honeymoon period; which entails excitement on arriving at an institution of higher learning. This is followed by a culture shock period, which is described as a period of crisis. This period is followed by an initial adjustment period, where students try to find ways to adapt and adjust to life in the new environment. Students then go into the mental isolation period, characterised by being challenged by academic environment and feelings of loneliness. It is only after students have gone through this stage that they move into the acceptance and integration period, which is realised when students reach a more stable adjustment, and are comfortable with being in the university environment. This is a crucial stage, since adjustment is regarded as important in predicting academic outcomes and therefore, the main indicator of student success (this encompasses students' social and academic success) (Al-Khatib, Awemleh & Samawi, 2012; Bhakta, 2016; Petersen, Louw & Durmont, 2009).

This chapter discusses student adjustment, using various student development theories. The chapter begins with the discussion of the history and epistemological considerations that took place in the field of student development from the 1930s. Core human development theoretical perspectives that have contributed to current student development theories are also surveyed in this chapter. The chapter concludes with the discussion of the psychosocial approach and Schlossberg's transition theory as the theoretical foundation of the current study.

2.2 Epistemological underpinning

The current study is based on the empiricist epistemology, and discusses diverse theories in student development, as well as the empirical evidence found in literature.

Empiricism maintains that all knowledge is derived from sensory experience and perception; and that only empirical methods and evidence result in empirical conclusions. Empiricism is based on the philosophical ideas of Locke, Berkeley and Hume; and is considered the foundation of scientific knowledge (Meyers, 2014). Empiricism emphasises aspects of scientific knowledge that are closely related to experience, particularly those that are formed through deliberate experimental arrangements. Empiricism furthermore, emphasises the importance of obtaining quantitative empirical evidence in supporting findings about human experiences (Meyers, 2014).

2.3 Developments in student development research

Even before theories about student development emerged in the 1970s, student development dialogue had already started in the 1930s. In 1937 the American Council on Education released the *Student Personnel Point of View* (SPPV) statement that highlighted the importance of guiding the **whole student** (American council on Education, 1937). The statement encompassed intellectual capacity and achievement, physical conditions, vocational aptitudes and skills, social relationships, moral and religious values, aesthetic appreciation, economic resources as well as the emotional make-up of students. Accordingly, the statement served as "a reminder to the higher education community that in addition to the contributions of research and scholarship, the personal and professional development of students was (and remains) a worthy and noble goal" (Evans, Forney, Guido-DiBrito, Patton, & Renn, 2009, pp. 8-9).

This dialogue continued into the 1950s and sparked growing interest in understanding the university experience and its impact on student development (Montgomery & Cote, 2003). Since then, interest in student development in institutions of higher learning grew significantly.

How students enhance their identity towards complexity, integration and change upon entry into institutions of higher learning (McEwen, 2003), and how they grow and increase their developmental capacities upon entry into institutions of higher learning (Rodgers, 1990) have been the subject of interest for most scholars and researchers. The 1960s saw this interest becoming more specific with the emergence of publications that focused on undergraduate students' retention (Gekoski & Schwartz, 1961), attrition (Panos & Astin, 1966) and drop-out rate (Feldman & Newcomb, 1969).

Evidently and expectedly, these developments had many implications for the manner in which the subsequent processes of gaining epistemological recognition would evolve. Contributions such as an article by Brown (1972) entitled *Student development in tomorrow's higher education – A return to the academy,* discussed the suggestions, alternatives and recommendations that were emerging for student development in the context of higher education and highlighted the commitment and re-focused the attention of higher education personnel to the whole student in promoting student development.

2.4 The role and contribution of human development theories

The 1970s witnessed efforts to adapt existing theories to pertinently accommodate issues of student development. Student development theories were premised on the view that the development of students could be understood by adhering to existing human development theories – to provide a more detailed exposition of student development epistemology. Therefore, student development theories are regarded as the application of human development concepts to higher education contexts to understand and master increasing developmental tasks, achieve self-direction and become interdependent (Miller & Prince, 1976). The theories were necessitated by an investigation of the changes in the sense of self that develop in individuals when they come to institutions of higher learning (Torres, Howard-Hamilton & Cooper, 2011).

These theories emerged to try and explain the growth and development of students enrolled in institutions of higher learning (Evans, Forney & Guido-DiBrito, 1998). The theories and research conducted provided qualitative and quantitative data, which research personnel in institutions of higher learning base their work with students on to help them understand where students are within the human development continuum.

Also, the theories guide educational practitioners to understand the importance of showing empathy towards students, provide better service, as well as develop programmes to assist students to adapt to the higher education environment (Evans et al., 2009).

All student development theories provide explanations for the intrapersonal and interpersonal changes that students in institutions of higher learning go through, factors that lead to the development of these intrapersonal and interpersonal changes, aspects of the higher education context that increase or decrease growth; as well as the developmental outcomes/goals to strive for in institutions of higher learning (Knefelkamp, Widick & Parker, 1978).

The apparent stages in student development theories that seek to explain development in different areas (for example social, cognitive, moral) can be traced back to the work of theorists in the field of human development – such as Piaget, whose research contributed to our understanding of cognitive/intellectual development, Freud who posited that there are five stages of psychosexual development; Kohlberg, who contributed to the understanding of moral development and Erik Erikson, who posited that people develop psychosocially in universal and sequential stages from infancy to late adulthood. The work of these theorists has resulted in the emergence of a set of theories that describe the process of student development from the first year of study at institutions of higher learning.

Core theoretical contributions to student development theories are reflective of four broad approaches, namely psychosocial theories, cognitive-structural theories, person-environment interactive theories and humanistic-existential theories (Long, 2012). All these theories focus on different aspects of students' development during the transition from high school to university, as well as their further involvement while in institutions of higher learning. According to Montgomery and Cote (2003), these theories are divided into two categories, namely those that draw from a developmental perspective (i.e. those that look at how attending university can affect student development) as well as those that draw from a socio-demographic perspective (i.e. those that look at how demographic and situational factors can affect student development).

However, considered together, these student development theories offer a holistic understanding of the processes that university students go through during their first year of study.

Current suggestions emphasise the need for the integration of student development theories in studying the whole student (Baxtor Magolda, 2009). The general consensus is that no single theory can adequately address all the complexities of student development.

Students adopt more complex ways of being when "internal biological and psychological changes interact with environmental demands, such as social norms and roles expected of individuals at certain ages in certain cultures" (Evans et al., 1998, p. 32). This implies that personal and environmental aspects of student development have to be taken into consideration. The following section argues that student development needs to be considered in a holistic manner that focuses on psychosocial, cognitive-structural, typology and personal-environmental areas of student development.

Day, Harrison and Halpin (2009, p. 267) maintained that this holistic view of student development "focusing on the development of more overarching concerns such as identity, moral reasoning and reflective judgement would grow the kinds of self-aware and adaptive leaders that many organisations value." Furthermore, taking a holistic view (that is, taking into consideration internal and external factors of students' development) can have a positive effect on student success (that is, academic success) (Museus & Ravello, 2010).

Based on the vast number of available theories in student development, not all the available theories have been covered in this chapter. The discussion has thus, focused on the most significant theories in each area of student development. Although diverse student development theories discussed in the chapter are relevant for the holistic understanding of student development from the time the student enters into an institution of higher learning, all theories have their limitations and cannot be applied to every student population and/or setting. Hence, the psychosocial framework forms the foundation for the current study – more specifically the current study focuses on Schlossberg's transition theory. The reason for focusing on this theory is that Schlossberg's transition theory provides a comprehensive framework for understanding psychological resources during students' transition in the first year of study.

2.4.1 Cognitive-structural theories

Piaget (1936) maintained that cognitive development is a process that occurs due to biological maturation and interaction with the environment. The focus of the theory by Piaget (1952) is on the processes people use to think, reason and make meaning of their experiences. Piaget (1936) describes his work as genetic epistemology, seeking to understand the development of fundamental learning concepts.

Piaget asserted that behaviour and thought are functions of a regulatory system that facilitates the individuals' adaptation to their environment, and that values emerge as a result of interaction with others within social contexts (Reed, Turiel & Brown, 1996). Hence, later cognitive structural theories reflect social epistemological influences, and regard knowledge as socially construed.

Although most of Piaget's work focused on children, cognitive-structural theories have immensely contributed to current student development theories in the context of higher education. Nucci and Pascarella (1987) explained that one of the primary goals of higher education is to instil moral education in students; that is the central goal of higher education is to teach moral thought and action and also develop students' moral responsibilities and characters. Bok (1988) maintained that moral development should be seen as an important outcome of higher education. Accordingly, higher education should have the same concern for students' character as there is for students' intellectual development. Bok further maintained that morals and ethics should therefore, remain an essential component of higher education.

Cognitive-structural theories investigate students' moral development and look at students' thinking and beliefs about the nature of knowledge and knowing. For example, Perry's (1968) theory of intellectual and ethical development describes how students develop cognitively and intellectually from the first year of study in an institution of higher learning. This theory is considered the most significant in student cognitive and moral development. Perry asserted that going to a tertiary institution and interacting with others in that environment affords individuals an opportunity to further expand their knowledge base and morality. This theory examines the process through which students acquire knowledge. His theory focuses on students' thought patterns and their worldviews (Evans et al., 2009).

Moreover, Perry's (1968) theory reflects on how students deal with acquiring new information, as well as how they make meaning thereof, through four hierarchical stages. The first stage is **dualism,** and is divided into two sub-stages: *basic dualism* and *full dualism.* According to Perry (1968) students in the basic dualism stage still believe that all knowledge and truth are known by those in authority, and are therefore, still dependent on those in authority for answers.

In full dualism, students begin to understand that those in authority sometimes contradict one another, and that some questions may not always have clear answers. On the whole, in the dualism stage students typically still struggle with processes of comparison, reflection and analysis of information received.

The second stage is called **multiplicity** and is also divided into two sub-stages: *early multiplicity* and *late multiplicity.* During this stage students recognise that experts sometimes disagree – and start to acknowledge that there might be more than one answer to a question; and that everyone has the right to his/her opinion, and may even consult with peers. During this stage students may view time spent on their academic work as more important than logic and evidence of information received (Perry, 1968).

The third stage is **relativism,** and comprises *contextual relativism* and *pre-commitment.* During contextual relativism students understand the need to support opinions of others and move towards taking the context into consideration – it is during this stage that analysis and synthesis of information takes place. Students acknowledge ambiguity and learn to make choices, taking the context into consideration. In pre-commitment stage students realise the need to summarise and find solutions, and possibly make a commitment to the solution. They realise the need to choose their own truth where multiple truths exist. These changes allow students to develop critical thinking skills.

The fourth stage is **commitment and constructed knowledge** and comprises integrating knowledge, personal reflection and experiential action or commitment. Students in this stage are able to reflect on and integrate the knowledge gained. They are able to apply their values in making choices, even in the absence of complete information – they now have an understanding of continual knowledge and learning, and show a commitment to act, based on this fact (Perry, 1968).

Perry (1970) stated that each stage presents a challenge to the individual's previous assumptions and requires a redefinition and extension of responsibilities in the midst of increased complexity and uncertainty.

Perry's theory of intellectual and ethical development has received numerous empirical support, both as a useful framework for teaching and learning, programme development and implementation (Knefelkamp, 1974; Touchton, Wertheimer, Cornfield & Harrison, 1977); and as a model that provides an understanding of students' way of making sense of their own experiences (King & Baxter Magolda, 1996). Recently, the application of Perry's theory is evident in research examining gender differences in student cognitive development (Baxter Magolda, 1992; King & Kitchener, 1994).

Another prominent cognitive and moral development theorist in the field of student development is Kohlberg. Basing his theory on Piaget's stages of moral development, Kohlberg (1981) maintained that moral and ethical behaviour takes place in three levels and progresses through a series of stages, becoming more predictable and responsible at the higher stages (Kohlberg, 1975). The stages are structured wholes that follow an invariant sequence and are hierarchically integrated. The first level, which Kohlberg termed the pre-conventional level, consists of stages one and two. **Stage one,** known as the punishment and obedience stage, is characterised by avoidance of consequences and punishment (Kohlberg, 1981). **Stage two,** known as the individual instrumental purpose and exchange stage is characterised by moral and ethical behaviour that is self-serving – that is aimed at serving one's own needs and interests (Kohlberg, 1981).

The second level, which Kohlberg (1981) termed the conventional level, consists of stages three and four. **Stage three** – is the mutual interpersonal expectations, relationships and conformity stage and is characterised by interest in the projection of image/perception of the self as a good person and complying with the rules and expectations of society. **Stage four** – is the social system and conscience stage, and is characterised by the focus on obeying laws laid down by authorities.

The third level, which is the post-conventional level, consists of stages five and six (Kohlberg, 1981).

Stage five is known as the rights and social contract or utility stage, and is characterised by fulfilling the obligations of societal contracts the individual has agreed to, based on the values that emphasise basic human rights. In **stage six** – the morality of universalisable, reversible, and prescriptive general ethical principles, the individual follows self-chosen ethical principles (Kohlberg, 1981).

Kohlberg (1981) focused on, and contributed significantly to the field of moral education. His theory has been included in the discussions on the moral dilemma in academic courses, as well as in studies that focus on increasing perspective taking and the transition of students to more advanced reasoning (Evans, 2010). For example, a study conducted by Blatt, one of Kohlberg's students, provided empirical evidence on the role of moral education in the curriculum (Kohlberg, 1975). There is furthermore, support for the role of the theory in encouraging critical thinking in students (Hersh, Paolitto & Reimer, 1979). Also, Kohlberg's development of the Moral Judgement Interview (MJI) has often been used to measure moral development in students in institutions of higher learning.

Another prominent contributor in the theory of student moral development is Gilligan, who was Kohlberg's student. He introduced a theory for understanding gender differences in moral development. Focusing on women's moral development, Gilligan (1982) released a book entitled, *In a different voice: Psychological theory and women's development.* Similar to Kohlberg, Gilligan's (1982) stage theory is divided into three divisions, namely the **pre-conventional,** the **conventional** and the **post-conventional** levels. However, Gilligan felt that Kohlberg's theory predominantly accommodated privileged white males and was therefore, biased against females – that is, Kohlberg's theory emphasised rights and rules over the caring effect of human relationships, which would be ranked higher from a woman's point of view. Supporters of Gilligan have expressed a concern that morality built solely on justice emphasises impartiality, and can promote detachment and indifference (Carse, 1991).

Gilligan's (1982) theory also differed from Kohlberg's in that the transition between the stages comes as a result of changes in the sense of self and not cognitive capacity, as Kohlberg argued. Accordingly, in the **pre-conventional stage**, the goal is survival; and although the individual is aware of their connection to others, his/her behaviour is fuelled by selfishness. In the **conventional stage**, individuals move from selfishness to having a sense of responsibility towards other people.

The focus now shifts to caring for other people, often more evident in the mother and wife roles, which can even lead to some women ignoring their own needs.

It is the realisation of the latter (ignoring own needs) that Gilligan maintains, often leads to the next transition. In the **post-conventional stage**, individuals find balance between self and others – they come to realise that it is important to care for oneself as well as others. Gilligan however, maintained that some people never reach this level. The application of Gilligan's theory is most evident in studies on student leadership development (Kezar & Moriarty, 2000).

However, even with the recognition of gender differences in moral development, the findings of studies conducted previously indicated that overall, the moral development differences in males and females are small (Thoma, 1986). For example, Walker (1984) analysed studies on gender differences in moral development and reported that of the 108 samples reviewed, only eight indicated significant differences favouring males. Therefore, empirical evidence for moral development seems to suggest a combination of both Kohlberg's and Gilligan's theories in understanding students' moral development (Boss, 2006).

Choosing to take a more specific focus in the understanding of students' moral development, Parks' (2000) theory of faith development adds to the understanding of students' spiritual development. Parks (2000) adapted Perry's theory of cognitive development in describing how students create connections and make meaning with regards to spirituality, the existence of higher powers and activities of faith. Accordingly, there are three areas of development – that is, **cognitive, dependence** and **community**.

Cognitive development entails five stages, namely *authority bound* (where all trust is on authorities), *unqualified relativism* (where authorities are discovered to be fallible), *probing commitment* (where short-term commitments are made to some faith community), *tested commitment* (where the commitment becomes more secure), and *convictional commitment* (where deep commitments are formed to own faith community – however with an understanding of other people's commitments).

The development of dependence on faith also has five stages, which are *examining changes in dependency, dependent/counter-dependent, fragile dependence and interdependence*. Dependence has to do with how individuals' understanding of faith moves from dependence to interdependence, where they have confidence in their own views, but still tolerant of other people's views.

The last stage in the development of dependence on faith is community, which has the following sub-stages: *conventional community* (essentially consists of family members), *diffuse community* (where other people are included), *mentoring community* (where groups offer support as individuals explore new ideas), *self-selected community* (where individuals join groups with same ideas/belief system), and *open to others* (where there is a deep awareness of others). The theory shows the importance of acknowledging and integrating spiritual and faith-based communities for students in institutions of higher learning in fostering a sense of belonging and assisting students to adjust to life at university campuses.

Research conducted on students in institutions of higher learning in relation to the relationship between cognitive development and emotional development provided empirical evidence that highlights the importance of cognitive development on student adjustment, particularly emotional adjustment (Baxter Magolda, 2001; King & Baxter Magolda, 1996). Accordingly, individuals need cognitive development to understand and manage their emotions – this will enhance critical thinking, reasoning and decision making, and promotes self-authorship (Baxter Magolda, 2001). Furthermore, Kobasa (1979) maintained that a certain level (higher) of cognitive ability is essential for individuals to be able to recognise alternatives when dealing with a stressor – that is, this ability allows for the interpretation and meaning of the stressor, which assists in adjustment.

2.4.2 Humanistic-existential theories

The proponents of the humanistic approaches to learning are Abraham Maslow (1908-1970) and Carl Rogers (1902-1987) – who postulated theories that sought to explain the affective domain of students and how students endeavour to take control of their own life processes (Rogers, 1996). Accordingly, greater self-understanding and interpersonal skills lead to individual and societal change (Bell & Schniedewind, 1987).

Rogers' (1959) principle of self-actualisation contributed to the intrinsic human processes of adaptation and growth. The theory explains the acquisition of needs as development towards autonomy, away from the control of external forces. Learning is not an end in itself – rather, it is a means toward the height of self-development; which is self-actualisation. Therefore, learning is dependent on students' skills to understand what is important to them, and also skills to direct behaviour towards attaining those needs and wants.

Abraham Maslow's (1943) hierarchy of needs has on the other hand, contributed to the understanding of students' needs in institutions of higher learning. According to Maslow, it is essential that in addressing human needs, their place in the hierarchy be considered – that is, it is crucial that the bottom level needs are met first – since failure to do so will make it impossible for higher level needs to be met.

Accordingly, the first level consists of the physiological needs (hunger, thirst, etc.), the second level consists of the safety or security needs (away from danger), the third level is the belonging and love needs (to be loved and be accepted), the fourth level is the esteem needs (to be competent and to achieve), the fifth level is the cognitive needs (the need to knowledge and understanding), the aesthetic needs (to be surrounded by beauty), self-actualisation needs (to realise one's full potential and find fulfilment) and lastly, the transcendence needs (to help others to realise their full potential). This theory has contributed to the understanding of how these needs should be met for optimal levels of development to take place in higher education.

More recent contributions to the human existential theories on student development include Hettler's (1984) model of wellness, which proposes a holistic view of student development, focusing on the integration of the six dimensions: the (1) **physical dimension**, which looks at students' nutrition and physical activity; the (2) **intellectual dimension,** which concerns itself with the continuous acquisition of new knowledge and skills – that is, continuous learning; (3) the **occupation dimension,** which involves life-long learning and career or vocational development; (4) the **social dimension,** which looks at the ability to form and maintain healthy relationships; (5) the **environmental dimension,** which looks at students' connection with their physical and natural surroundings, as well as (6) the **spiritual dimension,** which considers students' value systems and their thoughts about a higher power.

Accordingly, students need to acquire the necessary balance in the six dimensions; and this requires them to make personal commitments to reach an optimum level in each dimension. Therefore, the model offers students and personnel in institutions of higher learning a wellness approach that takes into consideration all the dimensions (that is, social, physical, spiritual, environmental, occupational, and spiritual) in the monitoring of the development of students.

The theories discussed above have provided a conceptual framework for making content meaningful to students by integrating intellectual and emotional development in order to create a supportive environment (Bell & Schniedewind, 1987). These theories do not only consider students' intellect, but also look at the student as a whole in their journey to achieving their full potential. The theories have contributed to the value of intrinsic rather than extrinsic motivation. Empirical support for these theories is evident in research that has focused on self-regulated academic learning (Zimmerman, 1989) and student motivation (Sheldon & Kasser, 2001).

For example, a study conducted by Sheldon and Houser-Marko (2000) on first-year college students showed that students who enter college with self-concordant motivation are poised for a self-perpetuating process of continued growth and self-expansion, which leads to better goal attainment during the first semester, resulting in increased adjustment at the end of the first semester. However, the application of these theories in student development is considered limited; as they tend to exclude relevant contexts and social mechanisms in the construction of meaning and knowledge (Amstuzt, 1999).

2.4.3 Person-environmental theories

Person-environmental theories have focused on the role of context in student development. One prominent theorist in the person-environmental perspective on student development is Tinto (1975). His work on student retention can be credited for its introduction to the dialogue on the role of institutions of higher learning on undergraduate student retention. His theory contributed to the understanding that student integration can increase institutional commitment and therefore, student success and chances of graduation.

Tinto's (1993) theory of student retention is the most notable and is reflected in the results of almost 20 years of research contributing to the body of knowledge surrounding this theory. He maintained that students transitioning into an institution of higher learning need to integrate both socially and academically. Accordingly, Tinto's (1975) theory suggests that students who manage to integrate themselves into the campus community are more likely to graduate than those who struggle with integrating themselves.

Tinto (1993) identified separation, transition and incorporation – which he later termed adjustment, as the three stages of the process through which students become integrated into the academic and social environment at a tertiary institution. Accordingly, separation occurs prior to the start of university, when the student detaches from the norms of a community that they come from, including friends and families. Once that process has been completed the student moves to the transition stage, which involves managing anxiety and coping with new experiences. This is when the student assumes a new identity as a university student (Briggs, Clark & Hall, 2012). The last stage is integration, which happens when the student adopts new norms and patterns of behaviour shared by the university community – that is, when the student has adjusted into the higher education environment (Tinto, 1993).

Tinto (1993) further maintained that the manner in which first-year students cope with challenges determines how they adjust into the new environment. Students with ineffective coping mechanisms – for example, those who are in denial and those who disengage are most likely to drop out (Longwell-Grice & Longwell-Grice, 2008). Also, Tinto (1975) noted that students come to institutions of higher learning with different attributes and experiences that impact on their performance. He adds that these attributes and experiences play a role on how well students integrate into institutions of higher learning, as well as on student retention (Tinto, 1975). Tinto (2006) also maintained that students who do not have the necessary attributes to become academically and socially integrated are most likely to drop out of institutions of higher learning. Therefore, Tinto's theory has greatly contributed to the understanding of factors outside academia, which could lead to student dropping out in large numbers (Balkcum, 2014). Also, the theory is so popular in higher education circles that it is accepted as the theory that best explains student attrition (Davidson & Wilson, 2014). Tinto's (1975) theory focuses on the following components:

- Pre-entry attributes (includes prior schooling, skills and abilities, as well as family background)

- Goals/commitments (what students aspire to achieve during their time at an institution of higher learning)

- Institutional experiences (students' experience of academic and social activities, as well as their academic performance)

- Integration (includes both academic and social integration)

- Goals commitment (students' intentions as well as external commitments); and

- Outcomes (decisions around how they choose to depart from the institution of higher learning, that is, dropout, transfer, or graduate).

Pre-entry attributes

The background, skills and abilities of students prior to entering institutions of higher learning determine their integration and contribute to their success (Tinto, 1993). As such, student success is impacted by their social background, family background, educational background, personality and educational/occupational orientation and aspirations prior to entering institutions of higher learning (Terenzini et al., 1994). Here, the theory makes provision for a combination of intellectual and personality/dispositional factors. This part of Tinto's (1975) theory built on the work on students' intellectual and personality/dispositional factors that contribute to student dropout and success (Heilbrun 1965; Rossman & Kirk, 1970; Summerskill, 1962).

Goals and commitments

Tinto (1993) maintained that a low sense of purpose as well as commitment to academic goals can contribute to student failure. Accordingly, there is a need to focus on course selection, motivation and characteristics of students before or at the time of entry into an institution of higher learning. Levin and Levin (1991) indicated that student characteristics that can impact on their persistence are academic preparedness, ability to adapt to life at the institution of higher learning, their perception of progress towards goals, reasons for pursuing a qualification, self-confidence and willingness to seek academic assistance when the need arises. Tinto (1993) further maintained that commitment to educational goals and the characteristics of students prepare them to better respond to experiences encountered in institutions of higher learning.

Institutional experiences

Tinto's (1993) theory also considers the institutional experiences of students. According to the theory and supporting research, the institutional culture (Braxton et al., 1995), the institutional obligation (Astin, 1993) and the institutional attitudes (McLaughlin, Brozovsky, & McLaughlin, 1998) all impact on students' decisions to engage in academic and non-academic activities, create a sense of belonging and strengthen commitment to the institution's educational goals.

Academic and social integration

Lastly, Tinto's (1993) theory emphasises the importance of student integration into the institutional environment. He maintained that integration into the social and academic environment is crucial for student success.

Empirical evidence suggests that students' academic and social integration can be achieved through:

1) Strong intentions or career goals. Here Tinto (1993) maintained that career goals can counter the effects of negative institutional experiences and poor integration into the culture of the institution.

2) Student involvement. Accordingly, involvement with peers (Bean & Metzner, 1985) and staff members (Pascarella, 1985), as well as academic involvement have an effect on student integration into the new environment (Astin, 1977).

3) Institutional facilities. Proper and adequate facilities can assist students in their integration into an institution of higher learning. For example, a study conducted by Pascarella (1985) indicated that student integration can be mitigated by high quality residential facilities.

Tinto (2012) further maintained that institutions of higher learning can play a role in retaining students and ensuring that they complete their studies by revisiting the institutions' first-year programmes and students' retention policies – and that once the student has made a transition into an institution of higher learning, his/her stay at the institution will depend on his/her incorporation into the social and intellectual communities of the institution (Tinto, 1993).

Tinto stated further that institutions of higher learning can make conducive the conditions that would increase student success – by taking into account expectations that students had when they first came to an institution, as well as during their time at an institution of higher learning, support – mainly academic, social and financial, assessment – this entails the type of assessments used; for example entry assessments and progress assessments, as well as the environment of assessments and feedback – that is creating a rich, meaningful and conducive environment for success as well as involvement – how students enter and navigate the institution's social structures (Tinto, 2012).

Another significant person-environmental theory is Alexander Astin's (1993) theory of student involvement. Astin's theory was informed by the data collected for his study that involved 500 000 undergraduate students in 1 300 institutions in the United States of America that started in the late 1960s. Regarded as one of the first attempts to explain student persistence (Crissman Ishler, & Upcraft, 2005), Astin's (1993) theory assesses the impact of various environmental experiences on students' success after enrolment. According to Astin's theory there is an interplay between students' pre-established set of characteristics (e.g. high school grades, marital status, age, gender, and reasons for enrolling for a higher education course) and the higher education environment that influence how students experience this environment, which can lead to students' failure or success. Furthermore, Astin maintained that environmental variables can be divided into eight categories namely: (1) institutional characteristics (e.g. the type and size of the institution), (2) financial aid, (3) choice/field of study, (4) curriculum, (5) faculty characteristics (such as teaching styles), (6) place of residence (that is, type of accommodation; and whether it's on or off campus), (7) student peer group characteristics (such as values, attitudes, socio-economic status), and (8) student involvement (that is number of classes attended, participation in extracurricular activities, etc.).

Astin (1993) also identified outcomes, which are defined as the post-exposure effects of higher education environments on students. The outcomes are divided into five categories namely, **satisfaction with the higher education environment, academic cognition, career development, academic achievement** and **retention.** Astin (1984) explained that the concept of involvement resonates with Freud's concept of *cathexis* in the sense that it requires students to invest psychological energy in other people and objects in the higher education environment.

He added that the concept of involvement also resonates with learning theorists' concepts of **vigilance** and **effort** – that is, it is more of a behavioural component that emphasises that student engagement go beyond thoughts and feelings to encompass behavioural aspects. He argued that the level of involvement varies from student to student and requires that one invests their psychosocial and physical energy. Consequently, their development will be directly proportional to the level of their involvement. The theory provides a framework for understanding how personal and environmental characteristics can complement each other, thereby influencing students' experiences and outcomes. Furthermore, the student involvement theory maintains that student involvement positively correlates with students' academic performance.

2.4.4 Typology theories

Although typology theories have been extensively researched and still have much utility in the field of student development, they are often not considered as developmental theories (Evans et al., 2010). However, they are included in the current discussion because of their contribution to a holistic view of developments in the field of student development.

Bigg Meyers' (1962) typology theory is the most prominent of its kind in the field of student development and originates from the intention to capture the intricacies of Jung's theory of psychological types. Later, Briggs Meyers (1962) collaborated with her daughter and the two came up with the Meyers-Briggs Type Indicator (Brigg Meyers, 1962). Accordingly, the Meyer-Briggs Indicator has four different dichotomies, broken down into 16 personality types. According to the Meyers-Briggs Indicator (Brigg Meyers, 1962), individuals have different motivations and follow certain processes; and to get through any day, they choose between polar opposites in terms of their preferences.

Polar opposites are extraversion and introversion (this represents an orientation either towards the outer world, where the focus is on people and outside things, or the inner world of concepts and ideas), thoughts and feelings (which means arriving at judgements by applying impersonal and logical processes, or arriving at judgements by applying subjective processes), and judging and perceiving (which is a process of coming to a conclusion or becoming aware of something) (Brigg Meyers, 1962).

According to Sanborn (2013), understanding psychological types as described in the Meyers-Briggs Indicator (Brigg Meyers, 1962) can assist students and administrators in university settings to understand students' learning and academic success. Using the measure could help in establishing how students fit into a tertiary institution, thereby enhancing student satisfaction, success and progress to graduation.

Another typology theory is Kolb's (1984) theory of experiential learning, which describes students' learning styles. Accordingly, there are four learning styles. There is the **divergent learning style**, which is referred to as the feeling and watching style. Students who employ this style look at things from different perspectives, prefer to work in groups and in situations that require ideas-generation. They prefer watching rather than doing (engaging in activities), and perform better in concrete situations. The second learning style is **assimilating,** and is known as the watching and thinking style. Students who employ this style prefer to follow a clear, concise and logical approach; rather than approaches based on practical value. They focus more on ideas and concepts than on people. This style is employed by students who enjoy analytical models of learning. The third learning style is **converging,** which is the doing and thinking style. Students who employ this style prefer a learning environment that allows them to engage in solving practical problems. These are students who enjoy technical tasks. The fourth style is referred to as **accommodating,** and is the doing and feeling style. Students who employ this style rely on intuition rather than logic. They prefer working in teams and often rely on other people's analysis. These students are practical and experimental in their approach.

Another prominent theory in student typology theories is Holland's (1973; 1997) theory of vocational personalities and environments. Holland maintained that there are six student personality types. Accordingly, there are students who are **realistic** and active, who also enjoy manual activities that require physical and mechanical skills. Therefore, they prefer to learn by engaging in practical task-orientated activities. The **investigative** students are analytical and intellectual. They enjoy abstract and complex activities that require logical and creative problem solving. These students often prefer working in isolation. The **social** students prefer participating in group activities and engage in activities that focus on humanistic interests; that is they prefer activities that afford them an opportunity to solve social and interpersonal problems. The **conventional** students prefer organised systematic activities, which are based on clear, well-defined instructions.

These students are thorough and often possess organisational, clerical and numerical abilities. The **artistic** students are intuitive and imaginative, and tend to enjoy creative activities that offer opportunities for self-expression. These students prefer engaging in original work that allows them to be flexible and to express themselves. The **enterprising** students are energetic and adventurous and enjoy activities that allow them to use their interpersonal and leadership skills, which they use to persuade others and to attain their set goals.

Typology theories of student development have received empirical support for their application in the understanding and assessment of learning behaviours in student populations (Jensen, 2003). For example, research conducted by Schaubhut and Thompson (2011) showed that understanding psychological type and preference can assist students in their institutional choices and planning of their academic careers. Furthermore, there is empirical evidence for the application of typology theories in understanding students' academic performance. For example, a study conducted by O'Brien, Bernold and Akroyd (1998) showed that personality types can affect academic achievement, where intuitive students had obtained significantly higher academic grades than students with the sensing type.

2.4.5   Psychosocial theories

Several developmental theories have been incorporated and immensely influenced recent student development theories. However, Erik Erikson's theory of psychosocial development is especially relevant to this study. According to Erikson (1959), there are eight stages of development that make up the human life span.

The stages are: infancy (0-2 years) – which is called the basic **trust versus mistrust stage**; toddlership (2-4 years) – which is referred to as the **autonomy versus shame and doubt stage;** the early school age (5-7 years) – known as the **initiative versus guilt stage;** middle school age (8-12 years) – known as the **industry versus inferiority stage;** adolescence (13-18years) – which is called the **identity versus role confusion stage,** including   late adolescence (18-22 years), early adulthood   (23-34 years) – which is called the **intimacy versus isolation stage;** middle adulthood (35-60 years) – which is called the **generativity versus stagnation stage;** as well as late adulthood (61 years and above) – referred to as the **integrity versus despair stage.**

Erikson (1959) emphasised that a psychosocial crisis can positively or negatively impact on personality development, and that growth is achieved as a result of maintaining a healthy balance between the opposing dispositions of a particular crisis. The theory focuses on contextual factors in human development, and the understanding is that the outcome of maturation (the epigenetic principle) is a set of integrated skills and abilities that function within the autonomous individual. Hence, this theory provides an ideal framework for the study of students in the context of higher education.

Erikson's (1968) psychosocial theory is furthermore, widely considered a foundational theory that can be applied in seeking to understand student development, and has greatly contributed to the emergence of student development theories (Evans et al., 2009). Erikson's theory of psychosocial development offers a way of thinking against which educators/practitioners can measure who their students are and how the higher education environment may inhibit or enhance their development (Widick, Parker & Knefelkamp, 1978).

Most individuals commence with their university studies at the age of 18; and this puts them in Erik Erikson's (1959) late adolescence identity versus identity confusion stage. At this age students are transitioning into adulthood – a period that can be regarded as a distinct stage, described as neither adolescence nor adulthood – a stage known as emerging adulthood (Arnett, 2000a). During this period individuals make a strong effort to answer the question "Who am I?" in their conscious search for identity. They are confronted with decisions about life choices in general, and if they don't find a resolution identity confusion can occur (Erikson, 1959). The goal is the achievement of a coherent identity without confusion.

Hence, Henderson and Nathenson (1984) maintained that student development theories have looked at institutions of higher learning as environments that should be designed to facilitate the resolution of the identity crisis. According to Erikson (1968) identity resolution entails five elements namely, the **experimentation with varied roles**, **experiencing choice, meaningful achievement, freedom from excessive anxiety,** as well as a **time for reflection and introspection.** Hence, Widick et al. (1978) maintained that questions about the learning environment should be related to these five elements. For example, institutions of higher learning programmes should aim to encourage students' thinking about themselves.

The tasks involved in discovering one's abilities and goals are a part of creating a sense of identity that allows the student to enter into adulthood, and this is shaped by how one organises experiences around the self within the environment (Erikson, 1959). In the context of higher education identity is seen as being two-fold: as personally-held beliefs about self in relation to the environment; and as socially constructed; that is one's sense of self is constructed in relation and in interaction with the social context (McEwen, 2003). The social construction of identity is seen as a process where students learn to strike a balance between own needs and the needs of others as they interact in the different contexts on campus. Thus, student identity development is influenced by the various roles that students play (that is, their involvement in student organisations on campus) and their expectations and beliefs of the higher education environment (Torres, Jones & Renn, 2009).

Building on Eriksons's theory, and specifically focusing on the identity versus role confusion stage, which is the stage most individuals are at when they go to tertiary institutions, Chickering's (1969) psychosocial theory illustrates the impact and importance of emotions and identity formation on student development and student success. Chickering believed that first-entering students go through a process of self-identification. He saw development as a process of differentiation and integration as new students reconcile new ideas, values and beliefs. Chickering's theory outlines the developmental issues of new students in institutions of higher learning and analyses how the environment could impact on the development process.

Chickering collaborated with Reisser (1993) and in their book entitled *Education and Identity,* discuss their psychosocial student development theory. The two scholars argued for higher education environments that foster a broad-based development of human talent and potential. They developed a seven-vector model that provides developmental directions that would assist in understanding student development. The vectors are considered different from stages; that is, even though they built on one another they are not unilinear. Chickering and Reisser (1993) saw student development as a journey (rather than a linear experience). Accordingly, these seven vectors of development have contributed to theories on the construction of one's self. They furthermore believed that students go through a process of better understanding themselves through interaction with the university environment.

Therefore, the theory sheds some light on how students manoeuvre around issues of their identity development and individual differences. Accordingly, the seven areas of development as formulated by Chickering and Reisser (1993) are:

1) Developing competence

Students need to develop competence in three levels namely: **intellectual competence;** that is mastering content (for example developing skills to comprehend, analyse and synthesise content); **physical and manual skills,** which entail an increase in strength and fitness, as well as athletic and artistic achievement; and lastly, **interpersonal skills** – which entail communication skills such as listening and understanding that enable students to maintain relationships.

2) Managing emotions

Students need to be aware of excessive and overwhelming emotions (e.g. fear, anxiety and depression) and find appropriate ways of dealing with these emotions. Mastery of this aspect entails learning to understand, accept and appropriately express one's emotions; and also includes managing the stress associated with being a first-year student. Chickering and Reisser (1993) maintained that these emotions can impede the learning process, if they become excessive and overwhelming. The two scholars also explained that it is imperative that students become aware of these emotions and find ways to cope with them in order to move through this vector.

3) Moving through autonomy towards independence

Students need to move towards being self-sufficient and pursue self-chosen goals. This process requires emotional and instrumental independence. Emotional independence is regarded as key to detaching from parents and forming other non-parental relationships and independently solve problems. Students need to be able to risk losing the support of other people in their lives such as peers and parents in the quest to pursue their own goals and learn to solve problems on their own. Instrumental independence in this regard, is the ability to think up ideas and then putting those ideas in action (Chickering & Reisser, 1993).

4) Developing mature interpersonal relationships

This vector involves being aware of interpersonal differences and being tolerant, as well as having the ability to build long-lasting mature and intimate relationships (Chickering and Reisser, 1993). Tolerance is defined as openness and appreciating cultural and interpersonal differences. The ability for one to form intimate relationships involves moving from dependence to interdependence with others in the social environment.

5) Establishing identity

Building on the previous areas of development, students need to be able to develop their own identity – here a sense of self emerges. This enables students to be comfortable in key areas such as body and appearance, self-acceptance, clarification of the self-concept through roles and lifestyle, sexual orientation, sense of self in social and cultural contexts, as well as personal stability and integration. Chickering and Reisser (1993) maintained that knowing oneself and being aware of one's attitudes towards self are key to developing identity.

6) Developing purpose

Once students have established their own identity, there is a need to determine what the future holds for them. Students need to make decisions and learn to find balance in their career, family and personal aspirations. This process entails formulating plans about vocational aspirations, personal interests as well as interpersonal and family commitments. Students have to unify all these goals into a meaningful purpose and start working on them on a daily basis.

7) Developing integrity

Students need to develop and apply core values to manoeuvre in their environments. Firstly, they need to develop humanising values – meaning that they need to engage in principled thinking in balancing their own self-interest with those of others in their social environment. Secondly, they need to develop personalising values – meaning they need to consciously affirm core values and beliefs (a set of personal guidelines); but also be able to respect the views of others. Lastly, they need to develop congruency – this means that their behaviour needs to match their personalised values.

Chickering and Reisser's (1993) model provides a framework for understanding how student identity develops during their transition into university life. The theory is also valued for its contribution on shedding light on the impact that changes in students' living arrangements have on the acquisition of interpersonal skills (Ortiz, 1999). The theory is further credited for the value it has added to professional and ethical conduct in attending to students and to university personnel trained in student development theories (McEwen, 2003). The theory has also contributed to the understanding and focus in higher education of the development of not only the intellectual competence vector of higher education, but also the awareness and development of the other vectors.

Although Chickering and Reisser (1993) considered individual differences in student identity development, there has been growing interest in understanding factors that affect students' social identity development. Thus, environmental factors and societal norms have been found to have a profound impact on students' identity development in the sense that these factors can serve to produce or perpetuate marginalisation and oppression (Jones & Abes, 2013), as well as dominance (McIntosh, 1998) among students in institutions of higher learning.

The diversity of the student population enrolling in institutions of higher learning has led researchers to consider the impact of factors such as gender, race, sexual orientation and immigration status on student identity development. For example, when conducting research on white males in the United States of America's institutions of higher learning, McIntosh (1998) concluded that white male students have advantages over other races, and enjoy privileges that instil conferred dominance that has in turn, led to some bias in understanding the challenges faced by other racial groups.

Studies involving other racial groups have focused on how the experienced oppression can impact on the social identity development of students (Evans et al., 2010) and other identified factors in the dialogue on dominance and oppression in institutions of higher learning such as students' religion, gender, age, ability and social class. The dialogue on these factors led to the emergence of several theories that serve to explain the influence of these diverse factors on students' identity development. Although these social identity theories are not the core focus of the current study, they are mentioned in the chapter as they serve to provide an understanding of the broader context in which students' identities develops.

For example, Josselson's (1996) theory of identity development in women provides a framework for understanding how gender differences can affect students' identity development. Accordingly, female students' identity development can be classified into four categories: there is the **foreclosure** category – where female students in this category manage to complete their studies with identity commitment and experience no identity crisis. These students often go through very little identity change and often look for security in their relationships. Female students in the **moratorium** category are regarded as unstable and are constantly experimenting and searching for new identities. They are unable to handle challenges and often find themselves in crises. The **identity diffusion** category is characterised by an absence of crisis and commitment – female students in this category seem to have low ego development, high anxiety and little attachment to inner self. The last category is the **identity achievement** category – where female students have managed to break the psychological ties of their childhood and managed to form distinct identities, have a re-organised sense of self and identity, and have a clear sense of who they are in relation to others.

Cross's (1995) model of psychological nigrescence provides a framework for understanding the influence of race on student identity development. Focusing on the experiences of black students, Cross maintained that black students go through three stages of identity development: the **pre-encounter** stage; that is when race does not play a significant role in the individual's daily life. During this stage individuals from different race groups are accepted as fellow human beings. It is during the **encounter** stage where an individual has an encounter – often a blatant racist experience – that affects him/her. The last stage is the **immersion** stage, where the individual makes a commitment to bring about personal change and discard an old identity.

According to Cross, immersion takes place in phases. In the first phase individuals often immerse themselves in all things that resemble being black. In the second phase individuals engage in more critical analyses of black identity. In the third phase, referred to as internalisation individuals try to find a resolution between their old identity and the new identity that focuses on their new black worldview. In the final phase, individuals move towards engaging in meaningful activities in efforts to address problems experienced by black people.

Looking at white students' experiences of race, Helm's (1984) model of white identity provides a framework for understanding the influence of race on white students' identity development. Accordingly, development takes place in two phases. The first phase entails the abandonment of racism, when during the first status, white students encounter the idea of black people. This leads to the second status where white students are conflicted, acknowledging their identification with their own race as well as the moral dilemma associated with being white (that is, how other races perceive whiteness). The third status is about reintegration, where white students acknowledge their identity and are informed regarding stereotypes formed about other races. The second phase is about gaining understanding on race dynamics and moving towards a non-racist white identity. In this phase students move into the fourth status, where according to Helm, white students begin to acknowledge how white people perpetuate racism; that is; there is a move towards acknowledging responsibility. The fifth and sixth statuses are about replacing stereotypes with more accurate information and taking a new white identity.

Helms (1984) explained that unlike stages, the statuses take into account previous modes of coping, as well as internalised ways of looking at the self. Although the current discussion revolves around black and white ethnic groups, it is important to highlight that other theories emerged that focus on other ethnic groups. Such theories include Torres's (2003) model of Hispanic identity development, as well as the model by Evans et al. (2010) (ethnic identity of Native American and Asian Americans).

Theories on the influence of students' sexual orientation on identity development have focused on the experiences of the non-heterosexual student populations. These theories include Cass's (1979) model of homosexual identity formation and D'Augelli's (1994) model of lesbian, gay and bisexual development. Cass (1979) maintained that homosexual students go through six stages of identity development. The first stage is **identity confusion**, which is associated with anxiety and fear of alienation – this happens when students become aware of their homosexual thoughts and feelings for the first time. In the second stage, the **identity comparison** stage, students come to realise that they need to accept the possibility that they might be homosexual. The third stage that students go through is **identity tolerance,** where they acknowledge that they are homosexual and begin to seek support from other homosexual individuals.

The fourth stage is **acceptance,** where students become comfortable with themselves (that is, with who they are) in relation to others. The fifth stage is **identity pride**, where students begin to engage in issues and activities that affect the well-being of homosexual individuals. The final stage is **identity synthesis,** where homosexual and heterosexual worlds are less dichotomised; that is, engagement with others is less about sexual orientation and more about individual personal qualities.

D'Augelli's (1994) model of lesbian, gay and bisexual development is similar to that of Cass (1979) (model of homosexual identity development). However, this model highlights the stress associated with disclosing one's identity to parents and other family members. Accordingly, identity development also takes place in six stages. The first stage is exiting heterosexuality, where there is recognition of homosexual thoughts and feelings. The second stage is about developing a personal lesbian, gay or bisexual identity. The third stage is about developing a lesbian, gay or bisexual social identity; that is creating a support network with other lesbian, gay and bisexual individuals. The fourth stage is about becoming gay, lesbian and bisexual off-spring, where identity is disclosed to parents and other family members, leading to the re-definition of relationships. The fifth stage is about developing a gay, lesbian or bisexual intimacy status, where individuals form their first meaningful relationship. The last stage is about being incorporated into a gay, lesbian and bisexual community, where there is a commitment to participate in activities that would bring about social and political change.

Torres, Jones and Renn (2009) maintained that there are three key common characteristics of psychosocial student identity development theories – where identity development is seen as a progression to complex understanding of the self, viewed as socially construed, and where the environment creates a context within which thinking, attitudes and behaviour are influenced.

2.4.6   The theoretical framework of the current study: Schlossberg's transition theory

Schlossberg's (1981; 1984) transition theory is regarded as a psychosocial theory and provides a framework to study human adaptation to transition. Initially focusing on adult transitions such as retirement, Schlossberg's theory evolved to incorporate areas such as career development, adult learners and the first-year experience.

Influenced by and building on the work of previous theorists such as Lowanthal, Thurner and Chiriboga (1975) and Levinson (1978), Schlossberg developed a framework for understanding how adults cope with transition. The initial conceptualisation of the transition model appeared in a seminal article, *A model for analysing human adaption to transition* (Schlossberg, 1981). Accordingly, transition is a part of life and the resultant stress is dependent on multiple factors; including the transition itself, individual personality, the surrounding environment and available resources (Schlossberg, Waters & Goodman, 1995).

The theory postulates that all transitions, regardless of the life stage – whether positive or negative; produce stress and require individuals to have coping resources (Schlossberg, 1984). The theory further postulates that the individual's perception of the transition is key to their adaptation (Schlossberg, 2011). Therefore, individuals' perceptions influence what they see as assets and liabilities during the transition. Hence, the theory provides a framework for understanding the process individuals go through from the moment they react to an event or situation (that is, the transition); until the event or situation is incorporated into their lives (that is, until they adapt or adjust).

The work done by Schlossberg and Chickering (1995) on the transition from high school into tertiary life entitled *Getting the most of college* details the types, processes and coping mechanisms of student transition. It provides a framework for the application of the theory to student transition from high school into institutions of higher learning and the first-year experience. According to Schlossberg and Chickering (1995) transition can be anticipated, unanticipated, or non-events transition. How students experience the transition will determine how readily they adapt to change that comes with it – that is, for students it is not the transition itself that gives meaning to the change; but rather, whether the transition was expected, unexpected or never occurring (Anderson, Goodman & Schlossberg, 2012).

Starting as a first-year student at an institution of higher learning might be an anticipated transition; but for most students, the emotional/adjustment difficulties during the first year of study might be unexpected. The theory postulates that the meaning that students attach to the transition determines how well they cope and finally adjust. Thus, the theory provides a framework for understanding where the student is in the process of transition; that is are they moving in, moving through or moving out of the transition.

Chickering and Schlossberg (1995) explained that the moving in phase of students' transition can be signified by the first time students come to the institution of higher learning and the anxieties associated with being in an unfamiliar environment. The moving through phase represents the time when students learn about the new roles and routines in the new environment. The third phase, moving out, is about finding balance between the academic workload and maintaining relationships with friends, family, staff and fellow students; that is, after the transition (Chickering & Schlossberg, 1995).

In addressing the coping resources that individuals require to mitigate the changes that come with transition, Schlossberg (2011) identified four fundamental coping resources; namely the **self,** which involves individuals' self-knowledge of how they process transition; the **situation,** which involves the details of what happened; **strategies**, which involve the response to the transition; as well as **support**, which involves the social/environmental resources.

Accordingly, the self-coping resource considers personal, demographic and psychological resources, which are perceived as directly affecting individuals' perception of the transition. The situation coping resource considers the triggers, what aspects of the situation can the individual control, how the situation changes the individual's role, whether the stressor is assessed as positive or negative, how great the associated stresses are, as well as the duration of the stressor (that is, whether the stressor is perceived as permanent or temporary) (Anderson et al., 2012). The support coping resource considers the available network of relationships within the individual's community.

The theory postulates that the strategy an individual employs is based on three types of coping responses; namely the response that modifies the situation, the response that controls the meaning of the problem to cognitively neutralise the threat, as well as the response that enables the individual to manage the stress after it has occurred and enables them to adapt to current stressful situations without being overcome by the stress (Goodman, Anderson & Schlossberg, 2012). These resources can either facilitate or hinder successful transition (Ryan, Carlstrom, Hughey & Harris, 2011) – that is, how students perceive the stress experienced during the transition determines how well they will cope with the transition.

This model has provided the theoretical framework for numerous studies on students' transition to tertiary life. Emerging studies have provided empirical evidence of the application of the theory on student transition into institutions of higher learning. These studies have focused on the transition of various categories of student populations. Research conducted, building on Schlossberg's transition theory has focused on community colleges, older students and specific student populations; including veteran students (Jenner, 2015), students with learning disabilities (Coccarelli, 2010), students transitioning from college to universities (Berger & Malaney, 2003) , as well as first-year students on probation (Tovar & Simon, 2006).

Furthermore, the theory has focused more on first-year students' transition and has inspired the release of several books aimed at assisting students with the transition from high school into institutions of higher learning. For example, books entitled *College rules: How to study, survive and succeed in college* (Nist-Olejnik & Holschuh, 2011), *Effective college learning* (Holschuh & Nist-Olejnik, 2011) and Downing's (2011) book entitled *On course: Strategies for creating success in college and life*, are all aimed at providing students with strategies on how to successfully transit into tertiary life.

Furthermore, the theory is supported by numerous research studies conducted on students' coping resources and adjustment during the first year of study – that is, during students' transition into institutions of higher learning. For example, the findings of the study conducted by Abdullah et al. (2010) on first-year university students showed a positive correlation between students' coping, adjustment and academic performance. The study showed that adjustment and academic performance are predicted by students' coping strategies. A study conducted by Aspinwall and Taylor (1992) involving 672 first-year students in college that focused on individual differences and coping strategies yielded the same results – which corroborated the fact that coping significantly predicted students' adjustment.

According to Evans et al. (2010), Schlossberg's (1981; 1984) transition theory is considered a comprehensive, highly integrative and dynamic model that can provide a solid foundation for practice – hence, the researcher calls for more research to be conducted, using Schlossberg's transition theory in order to shed some light on the type of transitions students experience while moving into, through and out of tertiary settings.

Using Schlossberg's transition theory as the theoretical framework, this study sought to explore the impact of self-awareness as a coping resource, with specific reference to self-consciousness and mindfulness during the transition of first-year students into institutions of higher learning.

2.5 Conclusion

This chapter discussed various theories that attempt to explain student development. These theories can also be used to explain adjustment and student success, based on how the different areas and stages of development were mastered.

It is clear from the discussion that there is no single theory that can explain all aspects of student development. In spite of these shortcomings, these theories are still relevant and can be used as a framework for understanding factors that have an impact on first-year students' adjustment and academic performance during their transition into institutions of higher learning. Hence, the chapter outlined the importance of taking a holistic approach to understanding student development, especially during the first year of study.

The chapter also reviewed empirical findings related to student development during their transition into institutions of higher learning. Intrapersonal and interpersonal factors in the context of tertiary institutions that impact on student adjustment and its subsequent impact on academic performance were discussed. Based on the psychosocial theories of student development, Schlossberg's (1981; 1984) transition theory was discussed as the theoretical framework for the current study.

The next chapter focuses on literature on self-awareness – specifically mindfulness and self-consciousness and the related empirical findings with regards to student coping resources.

LITERATURE REVIEW: SELF-CONSCIOUSNESS AND MINDFULNESS

3.1 Introduction

This chapter discusses the adaptive outcomes that may stem from fostering specific aspects of self-awareness; that is, mindfulness and self-consciousness. This conceptualisation builds on the considerable amount of history in the field of student development that has examined the protective aspects of personal attributes previously thought of as protective factors in student adjustment and performance – for example self-efficacy and dispositional optimism (Bandura, 1997; Magnano, Paolillo & Giacominelli, 2015). Furthermore, the current study conceptualises specific components of self-awareness as promotive factors (assets or resources). Addressing promotive factors may be one way of increasing positive adjustment for students in their first year of study during the transition into an institution of higher learning. The conceptualisation of self-awareness proposed here is consistent with the growing body of literature that argues for the incorporation of psychological factors in student attrition and persistence (Bean & Eaton, 2001) and in promoting adjustment and integration (Tinto, 1975).

This chapter discusses self-awareness as encompassing cognitive-based processes such as accepting and altering one's relationship to difficult thoughts and emotions; including in stressful situations, as well as a behavioural construct that emphasises observable actions that are guarded by domains self-identified as important. Specifically, the chapter looks at empirical and theoretical support for the significance of mindfulness and self-consciousness, targeting core beliefs and skills aimed at restructuring maladaptive thoughts and behaviours; thereby promoting coping. Furthermore, the chapter discusses mindfulness and self-consciousness as psychological coping resources. Thus the chapter discusses the role of mindfulness and self-consciousness in individuals' approaches and responses to thoughts and feelings and the related benefits in efforts to promote positive adjustment.

3.2 Coping and psychological resources

There has been growing interest in psychology with regards to how some individuals struggle to cope with stressful life events, while others are able to adjust well in the same stressful situations. Chan (1967) maintains that the individual's personality and attitudinal constructs have an impact on how he/she copes with stressful life events. Accordingly, Chan is of the opinion that coping is determined by the individual's perception of stress and their reaction thereof – that is negative perception and negative reaction leads to maladjustment, while positive perception and the resultant reaction leads to adjustment. Individuals appraise their stress from perceived situational demands and perceived personal coping resources (Lazarus, 1991).

Literature on coping highlights different ways in which individuals cope. Lazarus and Folkman's (1984) transactional model of stress and coping postulates that there are two types of coping; namely **problem-focused** coping, which involves efforts to modify the problem, and **emotion-focused** coping, which involves efforts to manage the emotional distress that is associated with the problem. A study conducted by Folkman and Lazarus (1980) that analysed 1 300 stressful episodes reported by individuals showed that both problem-focused coping and emotion-focused coping are used. The results showed that depending on the appraisal, problem-focused coping (often employed when the situation is perceived as changeable) or emotion-focused coping (often employed when the situation is perceived as unchangeable) would be employed. Furthermore, Lazarus and Folkman (1984) maintained that there are individual characteristics, for example – beliefs and personal traits and situation characteristics, for example – the uncertainty and ambiguity of the situation that serve as antecedents, which determines how individuals appraise and cope with problems/situations.

Schwarzer (2000) added proactive coping, which is described as goal management efforts often applied prior to stressful situations and; preventative coping, which is described as risk management efforts applied during stressful situations. Proactive coping therefore, entails the enhancement of own capacity in adjusting to stressful situations, while preventative coping entails skills the individual possess to recognise a potential stressor (Schwarzer, 2000).

Hence, coping is about building up resources that would assist in minimising the effects of the stress and reduce the severity of the impact of that stressor on the individual.

According to Hammer and Marting (1987), there are five domains of coping resources, namely:

- Cognitive coping – which entails the extent to which individuals maintain a positive sense of self, others and optimism about life

- Emotional coping – which entails the degree to which individuals are able to express and accept a range of emotions (which may help in reducing the long term effects of stress)

- Physical coping – which entails the degree to which individuals enact the health promoting behaviours that increase well-being

- Social coping – it entails the degree to which individuals embed themselves in social networks that provide the support needed during periods of stress; and

- Spiritual coping – which entails the degree to which individuals' actions are guided by religious, familial, cultural or personal philosophy.

Hammer and Marting (1987) maintained that coping resources are those characteristic behaviours, attitudes and beliefs that serve as resources and are available to the individual to help alleviate the stress associated with life events. Therefore, coping resources may enable individuals to reduce the level of stress encountered and make better choices in stressful situations. The use of coping resources to positively alter meaning in a stressful situation can promote psychological adjustment and reduce the negative effects of stress, including anxiety and depression (Chan et al., 2007).

3.2.1 Coping and psychological resources: Higher education context

The transition into institutions of higher learning can present a period of enormous stress for most students as they try to cope with the academic, social and personal changes experienced during this period (Wintre et al., 2011). During this period, students try to cope with the many changes and adapt into the new environment. There seems to be a correlation between how students cope and how they adjust into the new environment (Tao et al., 2000). According to Wintre and Yaffe (2000) research involving first-year students in institutions of higher learning highlights the stress experienced by students during the transition from high school into institutions of higher learning that can impact on how students cope during this transition and therefore, adjustment into the new environment.

Moreover, the stress experienced by students in institutions of higher education is often associated with psychological maladjustment, which is characterised by high levels of depression and anxiety (Crockett et al., 2007).

Empirical evidence suggests that students who are able to cope with the stress associated with the transition are able to adjust better; that is, coping buffer the effects of depression and anxiety in these students (Chemers et al., 2001; Crockett et al., 2007). Hammer (1986) supported this assertion and maintained that coping resources in students in institutions of higher learning can be related to their stress levels. Poor coping resources have been associated with high levels of stress and increased psychological symptoms, and necessitated student to visit student counselling centres. Hammer also maintained that there is a need to identify such coping resources for students in institutions of higher learning.

Furthermore, the findings of the study conducted by Chemers et al. (2001) indicated that a relationship exists between coping, emotional adjustment and academic performance in first-year students in institutions of higher learning. Another study conducted by Aspinwall and Taylor (1992) on 672 first-year students showed that most of the predicted effects on students' adjustment were mediated by their coping resources. Furthermore, the study found that students were able to control the initial effects of positive and negative moods on adjustment when employing coping resources. Moreover, a follow-up study, conducted over a period of two years indicated that these students had higher levels of motivation and performed well in their studies.

Therefore, it is not surprising that coping strategies and coping resources of students experiencing stress in institutions of higher learning, as well as their influence on adjustment have received considerable attention (Mena, Padilla & Maldonado, 1987). Also based on the advocacy of personality constructs as coping resources (Chan, 1967), there is growing empirical evidence that supports the consideration of internal personality constructs in students' coping (Crockett et al., 2007; Mena et al., 1987).

A general consensus is that the most effective coping strategies in students eliminate the use of dysfunctional coping, which can result in the development of negative attitudes and avoidance of problems (Thurber & Walton, 2012), as well as the use of maladaptive coping mechanisms such as substance use and promiscuous behaviour (Fisher, 2009).

Schwartzer (2000) maintained that focus should rather be on proactive and preventative coping, as they have been found to positively impact on student adjustment into the new environment. Similarly, problem-focused coping and emotion-focused coping have been found to be effective coping strategies in stressful encounters experienced by students (Abdullah et al., 2010).

3.3 Self-awareness as a psychological coping resource

In psychology, the self is viewed as "both the product of situations and the shaper of behaviour in situations" (Oyserman, Elmore & Smith, 2012, p. 70). The self is an agency for making evaluations, exerting control and experiencing feelings (Cheng & Zeng, 2000). Individuals use the self to make choices in different contexts (Oyserman et al., 2012). The self furthermore, plays an integral role in human motivation, affect, cognition and identity (Sedikides & Spencer, 2007). The discussions in this chapter revolve around self-awareness – that is, how consciously focusing attention on the self can be used as a psychological coping resource that can facilitate first-year students' adjustment and academic performance in institutions of higher learning.

The promotion of self-awareness is based on the notion that authentic self-knowledge is critical for psychological growth and maturity, and that pondering the self improves the extent and accuracy of self-knowledge (Trapnell & Campbell, 1999). Even in psychological assessment settings, research on self-awareness has led to the understanding that the assessments of various facets of the self; including attitudes, cognitions and affective and somatic states are usually more precise when they are made by the respondent, whose attention is self-directed (Gibbons, 1983). Accordingly, the latter is attributed to the ability of self-awareness to increase accuracy firstly by enabling the individual to focus more carefully on those aspects of the self and, secondly increasing an individual's motivation to report accurately on the assessed self-dimensions (Gibbons, 1983).

Similarly, research conducted in clinical settings showed that self-awareness is essential for the psychological well-being of individuals; and that it is also beneficial in lessening the effects of certain mental disorders – that is self-awareness can be employed as a coping resource to lessen the effects of certain clinical disorders.

For example, studies on schizophrenia have shown a negative correlation between self-awareness and schizophrenia in the sense that positive symptoms typical of the acute stage of schizophrenia can be related to a dysfunction of the awareness and/or recognition of self and others' actions (Daprati et al., 1997). Similarly, the positive coping effects associated with self-awareness are evident in the study conducted by Moeller and Goldstein (2014), where the findings revealed that self-awareness facilitated more adaptive behaviour in drug addiction and drug-biased attention, behaviour dissociation, insensitivity to negative outcome, as well as social inappropriateness. These positive coping effects are also evident in research on aggression, where empirical evidence suggests that self-awareness can reduce aggressive behaviours (Mohammadiarya et al., 2012).

The positive coping effects attributed to self-awareness have also been documented in non-clinical populations and in numerous areas of human functioning. Evidence from research suggests that self-awareness promotes behaviour regulation (Duval & Wicklund, 1972) and improves the individuals' drive in unpleasant situations by bringing the individuals' behaviour in line with aspirations or standards. Similar findings are evident in research on self-awareness and leadership (Hernandez, Luthanen, Ramsel, & Osatuke, 2015).

There is growing evidence, more specific to this study, of the value of self-awareness in academic contexts, specifically in the context of institutions of higher learning. Empirical support for self-awareness as a coping resource employed by students in institutions of higher learning seems to suggest that self-awareness promotes students' self-knowledge, effective self-regulation, stress management, adjustment and academic performance. For example, in his study Steiner (2014) has emphasised the significance of self-awareness as a coping resource employed by students in institutions of higher learning – and maintained that in an academic context, self-awareness or the lack thereof can have a significant impact on students' learning process.

In the context of learning, self-awareness is perceived as bringing into question students' identity by allowing for the individual to compare him/herself to others, and use the feedback to create an opportunity for better self-knowledge, make the necessary adjustments and improvements, accommodate weaknesses where necessary, and establish more realistic views of themselves (Steiner, 2014).

Hence, Steiner considers self-awareness as the crux of lifelong learning and development and therefore, as crucial for effective learning. Accordingly, self-awareness can enable students to take responsibility for their own learning and enhance their leadership skills.

The findings of the study conducted by Novack (1999) also provided empirical evidence of the role of self-awareness in promoting personal growth and student well-being. For instance, self-awareness has been found to assist students with improving self-discovery, relieving stress and learning (Saunders et al., 2007). The findings of the study conducted by Brown, Campione and Day (1981) also indicated that self-awareness in the student populations is "a prerequisite for self-regulation, the ability to orchestrate, monitor, and check one's own cognitive activities" (p. 20). Another study conducted by David and U (2016) involving 356 students in institutions of higher learning showed that self-awareness has a significant influence (positive) on students' academic performance.

Self-awareness has also been found to reduce transgressive academic behaviour in students in institutions of higher learning. For example, the findings of a study conducted by Diener and Wallbom (1976) showed that self-awareness can reduce the level of cheating (for example, in exams) among students. Accordingly, self-awareness seems to decrease impulsive, counter-normative behaviour in students.

Furthermore, self-awareness can facilitate the adjustment of first-year students in the tertiary institution environment. For example, a study conducted by Manee, Khoiee and Eghbal (2015) involving a group of first-year students showed that self-awareness can have a significant positive impact on student adjustment than stress management and communication skills. Another study conducted by Levitz and Noel (1989) examined the impact of self-awareness on growth and developmental tasks of a group of 83 first-year students (for example, interpersonal relationships, academic autonomy, time management).

The results of the study showed a significant developmental growth from pre- to post test on several developmental subtasks, including greater direction in career and lifestyle planning, better life management and more involvement in the learning activities. Follow-up studies conducted by Levitz and Noel also showed evidence of the positive effect of self-awareness on student retention – only two students dropped out of the institution by the end of the first year.

The next section examines the literature on self-awareness with emphasis on mindfulness and self-consciousness as coping resources. The section also surveys the background and empirical findings on mindfulness and self-consciousness with specific emphasis on empirical findings on the effects of mindfulness and self-consciousness in the context of institutions of higher learning.

3.4 Self-consciousness as a psychological coping resource

Literature reviewed indicated that there are mixed views on the effects of self-consciousness across different contexts. The findings indicated that in clinical contexts, where individuals have already been diagnosed with a psychiatric condition, higher levels of self-consciousness can exacerbate pre-existing symptoms. For example, self-consciousness has been found to exacerbate symptoms of neuroticism (Scandell, 1998), psychoticism (Davill, Johnson & Danko, 1992) and eating disorders – that is, self-consciousness is associated with increased body weight, which leads to concerns about body shape, as well as binge eating frequency (Sawaoka, Barnes, Blomquist, Masheb & Grilo, 2012) and anxiety disorders (Jostes, Pook, & Florin, 1999).

This assertion is supported by research that showed that self-consciousness can lead to different types of anxieties in individuals; for example, competition anxiety and social anxiety (Ashford, Karageorghis & Jackson, 2005), as well as obsessive compulsive disorder (Marker, Calamari, Woodard & Riemann, 2006). De La Serna, Richmond and Page (1986) argued that individuals who are highly self-conscious are more suspicious, show obsessive-compulsive behaviour, and are likely to report strange inner experiences than individuals with a low degree of self-consciousness. The findings of the study by Christensen (1982) also showed that self-consciousness can be associated with heightened self-perception of inadequacy, as well as reduced and ineffective social behaviour. Evidence from research also suggests that individuals who are highly self-conscious are mostly affected by any kind of feedback – positive or negative respectively (Hull & Young, 1983). Self-consciousness has also been found to impact negatively on psychological adjustment (Moreira & Canavarro, 2012).

Despite being portrayed as a negative trait, self-consciousness can serve as a valuable psychological resource – that is, self-consciousness can play an important role in the encoding and retrieval of accessible knowledge about the self, which influences the perceptions we have of ourselves, our emotions as well as behaviour in different contexts or situations (Hull et al., 1988). Also, the findings of a study by Carver and Scheier (1981) provided evidence of the role of self-consciousness on reactance (that is, improved reactance responses to threats). A study conducted by Scheier and Carver (1982) also revealed that self-consciousness can lead to greater persistence – for example, research participants who were highly self-conscious were found to be more persistent in situations where they received positive feedback. It has also been observed that self-consciousness plays a role in increasing awareness of attitudes (Gibbons, 1983) and enhancing effects of self-regulatory activities, thereby allowing for better self-regulation (Lischetzk & Eid, 2003).

Again, self-consciousness can play an important role in regulating strategic self-representational behaviour (Doherty & Schlenker, 1991), monitoring one's behaviour (Pinku & Tzelgov, 2006) as a preventative factor in internalising problems (inner-directed – generating distress in the individual) and externalising problems (outer-directed – generating discomfort in the environment) (Nie, Li, Dou & Situ, 2014).

Studies such as the one conducted by Scheier, Fenigstein and Buss (1974) provided empirical evidence for the positive effects of self-consciousness on psychological well-being and psychological distress. The results of their study demonstrated that self-consciousness can inhibit aggressive behaviour, and can also decrease engagement in socially-inappropriate behaviours. Also, evidence suggests that self-consciousness can increase resistance to situational influences such as group pressure or false feedback (Gibbons, Carver, Scheier & Hormuth, 1979).

These complexities of understanding self-consciousness and the debate on whether high levels of self-consciousness should be regarded as beneficial or detrimental; especially in enhancing adaptive behaviour is referred to in the literature as the paradox of self-consciousness (Trapnell & Campbell, 1999). A look at emerging explanations of the paradox of self-consciousness suggests that negative effects of self-consciousness identified by studies can be attributed to maladaptive forms of self-focus, and that adaptive forms of self-focus can be associated with psychological well-being (Nakajima, Takano & Tanno, 2017).

As a result, most studies have focussed on understanding mechanisms of self-consciousness by studying the impact of the direction or focus (facets) of self-consciousness; that is private self-consciousness and public self-consciousness.

The public and private facets of self-consciousness have been the focus of research since the 1970s when Feningstein et al. (1975) developed the Self-Consciousness Scale. The argument is that different individuals do not only differ in the frequencies and duration of self-focused attention, but also in the content and direction of their attention – that is, self-consciousness can be public and private (Buss, 1980). A survey of existing literature suggests that public self-consciousness and private self-consciousness have opposing effects on behaviour and coping (Matthews & Wells, 1994). Hence, it is essential to look at the findings of existing research on coping mechanisms in cases where individuals employ both public self-consciousness and private self-consciousness as coping resources.

3.4.1. Public self-consciousness as a coping resource: Empirical findings

According to Deci and Ryan (2000) studies indicate that public self-conscious individuals refer to others to guide their behaviour and are more likely to use introjected regulation. They argue that public self-conscious individuals show greater discrepancies between their general self-image and specific self-representations. Hence, there is evidence that suggests that public self-conscious individuals are conformant, have low self-esteem and exhibit low risk-taking behaviour (Higa, Phillips, Chorpita & Daleiden, 2008; Froming & Carver 1981). Other studies have linked highly public self-conscious individuals to susceptibility to embarrassment (Edelmann, 1985), social phobia (Saboochi, Lundh & Öst, 1999), and the likelihood of social compensatory friending on social network sites – that is, seeking more friendships on social network sites than private self-conscious individuals.

The former are more likely to perceive social situations as relevant to or targeted towards them (Fenigstein, 1984). Findings from emerging research indicated that high public self-consciousness can be linked to neuroticism, depression and social anxiety (Reeves, Watson, Ramsey & Morrison, 1995). Hence, Matthews and Wells (1994) argued that public self-consciousness might have a negative correlation to coping.

They further maintained that for public self-conscious individuals the overriding preoccupation with how others perceive them leads to self-criticism and activation of self-discrepancies that is related to stress-related cognitions and symptoms, and increases vulnerability to stress because of reduced levels of coping.

Even so, although limited, some research findings showed that public self-consciousness can positively help regulate certain behaviour. For example, the findings of a study conducted by Millar (2007) on public self-consciousness and aggressive driving showed that aggressive driving is more associated with low public self-consciousness than with high public self-consciousness. Also, public self-conscious individuals have been found to be more accurate in predicting their impressions on others (Tobey & Tunnel, 1981).

3.4.2 Private self-consciousness as a coping resource: Empirical findings

There seems to be more positive findings on research conducted on private self-consciousness as a coping resource. The findings of a study by Trapnell and Campbell (1999) suggest that attending to one's private thoughts and feelings can promote greater differentiation, integration, accuracy, and cognitive accessibility of information about the self. Individuals who are highly private self-conscious are regarded as curious, keen to extend their self-knowledge, reflective and psychologically minded (Franzoi, Davis & Markwiese, 1990). This assertion is supported by research findings that showed that private self-consciousness can be associated with detailed and clear self-knowledge and behaviour that is more consistent with one's attitude (Franzoi & Sweeney, 1986), openness to experience (Scandell, 1998), and can also facilitate psychological adjustment (Trapnell & Campbell, 1999).

A study conducted by Froming and Carver (1981) demonstrated that private self-consciousness is inversely correlated with compliance. The conclusion drawn by the study is that private self-consciousness can be associated with awareness and responsiveness to own opinions and disregard to group influences.

This assertion is supported by the findings of studies conducted on self-regulation in groups, which demonstrated that individuals who are highly private self-conscious are more likely to behave in terms of their social identity, display more in-group loyalty and preserve in-group distinctiveness, while individuals who are highly public self-conscious tend to behave in a more socially desirable way (Abrams & Brown, 1989; Schlenker & Weigold 1990). Franzio and Brewer (1984) asserted that individuals who are highly private self-conscious seem to be able to attend to private self-aspects more readily, even when unpleasant.

Similar effects of private self-consciousness have been observed in individuals who are highly private self-conscious, who have been found to display greater reactance responses when engaged to a coercive communication attempt, as well as greater reactance to self-imposed threat (Carver & Scheier, 1981). Furthermore, it seems that individuals who are highly private self-conscious are more likely to resist situational influences such as group pressure (Gibbons et al., 1979).

The findings of a study conducted by Mullen and Suls (1982) on how private self-consciousness may ameliorate the effects of stressful life events on physical health indicated that the health of individuals who are highly private self-conscious was unaffected by the incidence of undesirable and uncontrollable life events, while individuals who are low in private self-consciousness were more likely to become susceptible to illness, subsequent to the accumulation of such events. The study concluded that high private self-consciousness increased the likelihood of noticing psychological and somatic reactions to stressful situations and chances of taking instrumental actions to improve reactions to stressors (Mullen & Suls, 1982).

These findings are aligned with those of the study conducted by Innes and Kitto (1989) on the role of self-consciousness, neuroticism and coping strategies, where it was found that private self-consciousness may act as a moderator variable for stress-related symptomatology. These findings provide empirical evidence for the value of private self-consciousness as a psychological coping resource; that is private self-consciousness can moderate the relationship between negative environmental factors and psychological distress (Crandall & Perrewe, 1994).

However, literature reviewed provided a complex view of private self-consciousness as a coping resource. Even when the positive seems to outweigh the negative in private self-consciousness studies, there is evidence that suggests that private self-consciousness correlates positively with both positive and negative aspects.

For example, research findings indicated that private self-consciousness positively correlates with imagery, self-monitoring, openness to experience and emotionality and negative self-esteem (Scandell, 1998; Turner, Scheier, Caver & Ikes 1978). Matthews and Wells (1994) concurred that private self-consciousness can have a negative impact on coping and maintained that this can be dependent on the individual's secondary appraisals (perceived control). These scholars explained that for individuals who are highly private self-conscious, it is the prospect of a possible solution that often gets them stuck in an attempt to self-regulate – and they might not be able to engage in the problem-focused coping that the situation dictates. This tendency can lead to cognitive overload and maladaptiveness; especially if the situation does not change. However, it was concluded that the effect explained is dependent on how the individual perceives the situation – that is, whether the situation is perceived as a minor hassle or as a crisis (Matthews & Wells, 1994).

Wheeler, Morrison, DeMarree and Petty (2008) maintained that there is a need to consider different facets of private self-consciousness that can have different effects on behaviour. In their study of automatic behaviour, specifically priming effects, they decoupled the facets of private self-consciousness into internal state awareness and self-reflectiveness and demonstrated how internal state awareness reduced the degree of the prime-to-behaviour effects, whereas increased self-reflectiveness enlarged the effect. Scheier, Buss and Buss (1978) maintained that high levels of internal state awareness prompt individuals to more readily use their personal characteristics rather than situational cues.

Further research showed that self-reflectiveness can be implicated in psychological symptomatology (Panayiotou & Kokkinos, 2006). Self-reflectiveness has been shown to predict shame, guilt and social anxiety, while internal state awareness has been shown to predict mental health (Watson, Morris, Ramsey, Hickman & Waddle, 1996).

However, Trapnell and Campbell (1999) maintained that this effect can be attributed to the individual's type of motivation. They maintained that there is a difference between rumination (a neurotic self-attentiveness motivated by perceived threat) and reflection (intellectual self-attentiveness motivated by intellectual curiosity about self).

Even though internal state awareness and self-reflectiveness are out of the scope of the current research the above factors could explain the paradox on private self-consciousness found in the literature and provide clarity regarding the assertion that higher scores in private self-consciousness are associated with more accurate and extensive self-knowledge and yet higher levels of psychological distress (Trapnell & Campbell, 1999).

3.4.3 Self-consciousness as psychological coping resource: Contributing factors

Research on self-consciousness has provided evidence of the influence of the stages of development and of age and gender differences on the phenomenon. A study conducted by Davis and Franzio (1991) on stability and change during adolescence showed a significant degree of year-to-year stability in scores of self-consciousness (public and private). The findings of the study also showed that self-consciousness also predicted year-to-year perspective taking and emphatic concern, and decreased over time in relation to personal distress. Similar findings were obtained by a study conducted by Rankin, Lane, Gibbons and Gerrard (2004) on the longitudinal age changes and gender differences of adolescents' self-consciousness, where it was observed that public self-consciousness decreased with age and private self-consciousness increased with age respectively. The study concluded that public self-consciousness appears to be a normative response to adolescent social challenges – especially in girls, where higher levels were largely attributed to their closer social engagement. A further conclusion by the study was that private self-consciousness presented itself as being influenced by individual differences in adolescence, but that it is more likely prominent and predictive of social behaviour in adulthood. The findings of another study by Rosenthal and Simeonsson (1989) that investigated the link between emotional disturbance and the development of self-consciousness in early and late adolescence showed that age plays a predictive role as non-disturbed subjects (subjects with no emotional disturbance) showed a decrease in self-consciousness with age.

Furthermore, there is an indication of cultural differences that influence self-consciousness. For example, a study conducted by Gudykunst, Yang and Nishida (1987) on a sample of students from Japan, Korea and the United States of America showed that culture does affect the dimensions of self-consciousness.

The findings revealed "significant differences emerging between the United States and Japanese samples on public self-consciousness, between Japan and Korea on private self-consciousness, and between the United States and both Japan and Korea on social anxiety" (p. 7). The researcher did not come across similar studies conducted in the South African context – hence the current study is relevant as it will contribute to the understanding of self-consciousness in the South African context.

3.4.4 Self-consciousness as psychological coping resource: Higher education context

As most studies on self-consciousness tend to use students in institutions of higher learning as research participants – mostly college students; (Worell & Danner, 1989), in most cases the findings could be seen as applying to the context of institutions of higher learning. However, there is a need to look at empirical findings on behaviour that is specifically related to the academic environment and student coping.

The findings of various studies showed that different components of self-consciousness can impact on how students cope with some of the challenges observed in institutions of higher learning. For example, the study conducted by LaBrie, Hummer and Neighbors (2008) on how self-consciousness can moderate the relationship between perceived norms and drinking patterns in college students demonstrated a positive relationship between perceived norms (descriptive – what people actually do, and injunctive – what people feel is right) and drinking. In that study it was more noticeable in individuals who were less public self-conscious – as a result the study showed that public self-consciousness predicted alcohol-related consequences, while private self-consciousness predicted less drinking. Similarly, a study conducted by Foster and Neighbors (2013) on the effects of self-consciousness on the motives for social drinking among undergraduate students showed that the relationship between the social motives of drinking and peak drinking, as well as few drinks per week were more strongly associated with private self-consciousness.

Even studies on the social media behaviour of students in institutions of higher learning showed the impact of self-consciousness on students' social media usage. For example, a study conducted by Shim, Lee and Park (2008) that looked at computer-mediated communication by students demonstrated differences in the type of self-consciousness and social media behaviour. The results showed that public self-consciousness, but not private self-consciousness, is positively associated with higher social media usage – that is the frequency of posting photos, replying to comments on photos, and scrapping photos on their mini-homepages.

Moreover, a review of the literature provides an overview of some of the research focus and findings that provide evidence of the role of self-consciousness as a coping resource in some areas of academic functioning. Even in the context of higher learning there is evidence that suggests that high levels of self-consciousness can have different implications for students. A study conducted by Harrington and Loffredo (2001) showed that most dimensions of psychological well-being were negatively affected by self-consciousness. Furthermore, research by Brockner (1979) demonstrated that self-consciousness can negatively impact on task performance. Similarly, high levels of self-consciousness have been linked to self-handicapping behaviour such as academic procrastination, which can affect academic performance (Beck, Koons & Milgrim, 2000).

Similar findings were obtained   from studies on students' psychological adjustment and psychological well-being. Ingram (1990) found elevated levels of private self-consciousness on groups of depressed, anxious and depressed-anxious students. However, elevated levels of public self-consciousness were only evident in the depressed group. The study concluded that high private self-consciousness represents a particular thought process in both depression and anxiety cases, while high public self-consciousness seems to do the same only in anxiety. Furthermore, there is evidence that suggests that self-consciousness might affect students' abilities to perform to their academic capacities, resulting in lower academic success and greater academic stress (Sand, Robinson, Kurpius & Dixon Rayle, 2005).

Evidence from research also suggests that high levels of self-consciousness lead to positive coping resources among students.

The study conducted by Brazdãu and Mihai (2011) demonstrated that high levels of consciousness, which encompass self-consciousness can positively influence academic performance; resulting in improved performance during examinations. The results of the study showed a moderate but statistically significant contribution in the prediction of academic performance. Similarly, and more specific to the current study, the study conducted by Lew and Schmidt (2011) involving 690 first-year students who were requested to reflect on process and content of their learning revealed that self-reflection in the learning context could lead to improved academic performance.

Similar results were observed in a longitudinal study conducted by Bell, Wieling, and Watson (2004) involving students during the first two years of their studies, where the findings indicated that self-reflection in students contributed to developmental change or sustained engagement in developmental work over the study period. Accordingly, the findings further showed that over time, developmental change can be attributed to students' differences in self-reflecting patterning.

Also, a study conducted by Schomburg and Tokar (2003) involving 108 enrolled undergraduate students that investigated the effect of self-consciousness on the stability of vocational interest showed that private self-consciousness moderates the stability of vocational interest and resulted in more stable vocational interest. Another study conducted by Aamondt and Keller (1981) on understanding student discussion group participation indicated that students with high levels of private self-consciousness were more likely to participate in group discussions, whereas the opposite was evident in students with high levels of public self-consciousness and social anxiety. For the latter two, low participation was attributed to a general awareness of the self as a social object in individuals with high levels of public self-consciousness, while individuals who displayed high levels of social anxiety seemed uncomfortable in the presence of others, and were easily embarrassed (Aamondt & Keller, 1981).

Also, a study conducted by Plant and Ryan (1985) investigating the effects of self-consciousness on intrinsic motivation among the student population showed that high levels of public self-consciousness lessened intrinsic motivation, while high levels of private self-consciousness increased intrinsic motivation for an activity.

These findings showed different outcomes for self-consciousness research on students and provided further evidence on the interplay of the components/dimensions of self-consciousness.

3.5 Mindfulness

3.5.1 Mindfulness: Its introduction to psychology

Mindfulness is widely documented to have its roots in Buddhist psychological traditions (Brown, Ryan & Creswell, 2007). Hence, it is imperative to understand Buddhist roots of mindfulness in order to understand how mindfulness is applied in the psychological context, and how it can be used as a coping resource in stressful situations.

Mindfulness is translated from *sati,* a Pali term, meaning to remember (Grossman & Van Dam, 2011). Buddha used mindfulness in the context of spiritual teachings aimed at reducing the *dukka* (suffering). Buddha perceived that people needed to be freed from *dukka,* and identified mindfulness as one of the ways of entering into the path of liberation, which he referred to as *magga* (Levine, 2009). The idea is that one should strive to strike a balance (*samma*) and avoid disharmony/suffereing (*dukka*) (Amaro, 2015). In the Buddhist practice, mindfulness is seen as a technique of meditation and a method of recollection and alertness of moment-to-moment life experiences (Shapiro et al., 2008). Buddhist teachings show that the practice of mindfulness involves the integration of concentration and insight meditation on daily life experiences, with the aim of increasing adaptive practices and decreasing those that are maladaptive (Rapgay & Bystrisky, 2009). Buddha explained the practice of mindfulness as a way of becoming more introspective and aware of our inner processes without being judgmental (Levine, 2009).

Jon Kabat-Zinn is largely credited for introducing mindfulness in the field of psychology and basing it on Buddhist mindfulness practices. His work in the 1970s with chronically-ill patients chronicled the use and benefits of mindfulness in psychology. He used a sample of chronically-ill patients who were not responding well to other traditional modes of treatment and noticed significant changes in the stress levels of the patients undergoing mindfulness-based treatment (Kabat-Zinn, 1982).

He believed that cultivating innate qualities with the practice of mindfulness could result in psychological benefits and scientifically proven benefits for individuals, communities, institutions and organisations. Kabat-Zinn took patients through what he termed the Mindfulness-Based Stress Relaxation (MBSR) programme, where incorporating mindfulness-based principles he saw patients over a period of eight weeks, teaching them mindfulness practices.

The mindfulness practices include how to eat mindfully, mindful breathing, how to live in the moment (acknowledging thoughts as they arise but encouraging a re-focus of attention on the breath), body scan meditation (where attention is initially focused on one part of the body and progressively on the whole body as a system, with the intention of moving from avoidance to acceptance, especially when dealing with pain), yoga (focusing on working on bodily limitations), as well as mindful walking (focusing attention on one's movements) (Kabat-Zinn, 2012). According to Shapiro et al. (2008), the efficacy and documented evidence of MBSR in reducing distress and improving well-being in individuals with various medical and psychiatric conditions contributed to the growth of the practice of mindfulness in psychology. Hence, there is immense interest in the field of psychology and major developments in this regard are taking place, including in the areas of clinical and health psychology, cognitive therapy and neuroscience (Williams & Kabat-Zinn, 2011). Also, this growing interest in the use of mindfulness is evident in academic contexts as well, including in higher learning institutions (Williams & Kabat-Zinn, 2011).

Further support for the growth of mindfulness is provided in the article *why Jon Kabat-Zinn thinks mindfulness has a big future* (Mindfulness organisation, 2014). Accordingly, by the year 2013 there were about 20 000 meditators who had completed MBSR programme. Also, the organisation reported that at the time about 477 studies had been conducted on mindfulness, about 12 000 healthcare professionals had been trained globally, more than 80 organisations had introduced mindfulness within their organisations, and more than 740 academic medical centres offered MBSR. Furthermore, mindfulness was introduced in numerous academic contexts from 2007.

The growth in popularity and use of mindfulness has also seen mindfulness introduced in psychological interventions.

The focus of these mindfulness interventions has been on the effectiveness of mindfulness in dealing with psychological problems and/or disorders (Kabat-Zinn, 1990). The psychological benefits documented suggest reduced psychological symptoms and emotional reactivity, improved behavioural regulation and increased subjective well-being (Keng, Smoski & Robins, 2011). These mindfulness interventions seem to reduce symptoms of stress and increase well-being.

According to Greenson (2009) clinical and laboratory studies continue to show that contrary to initial thoughts about the effects of mindfulness, it does not only help individuals with relaxation – mindfulness interventions seem to be correlated with "less emotional distress, more positive states of mind, and better quality of life" (Greenson, 2009, p. 10).

Therefore, there are holistic benefits in the application of mindfulness in these psychological interventions – the benefits are seen as holistic in the sense that they encompass mind, body and behavioural benefits (Greenson, 2009). This assertion is supported by the findings of a study conducted by Forte, Brown and Dysart (1987) involving a group of mindfulness meditators. The results showed that the meditators reported benefits on various aspects including attention, memory, thinking, emotions, bodily sensations, imagery, interpersonal interaction, sense of self, sense of time, sense of reality and perception.

As a result, mindfulness-based psychological interventions have been developed and successfully applied among various populations contending with psychological disorders, medical conditions, as well as individuals considered healthy but dealing with stress (Baer, 2003; Kabat-Zinn, 1982). Particularly, there is empirical evidence that shows that mindfulness is effective in supporting physical and psychological well-being (Prozak et al., 2012).

In these interventions, mindfulness has been looked at as a set of skills that can be learnt and practiced, which can assist in reducing psychological symptoms and also increase general health and well-being (Baer, Smith, Hopkins, Krietemeyer & Toney, 2006). Shapiro (2009, p. 8) maintained that these skills are seen as inclusive of "greater ability to direct and sustain one's attention, less reactivity, greater discernment, compassion and enhanced capacity to recognize and disidentify from one's concept of self."

Therefore, clinicians are interested in how they can increase the quality of moment-by-moment attention and awareness of life experiences to assist their clients to find ways of dealing effectively with mental processes that contribute to maladaptive behaviours and emotional distress (Bishop et al., 2004).

Some of the mindfulness-based psychological interventions mostly referred to include amongst others; treatments such as Acceptance and Commitment Therapy (Hayes, Strosahl & Wilson, 1999), Dialectical Behaviour Therapy (DBT) (Linehan, 1993), Meditation Awareness Training (Gordon, Shonin, Sumich, Sundin & Griffiths, 2014), Mindfulness-Based Cognitive Therapy (MBCT) (Bishop et al., 2004) and the Mindfulness-Based Stress Reduction (MBSR) programme (Kabat-Zinn, 1982).

These therapies that involve mindfulness have been introduced in the treatment of a variety of psychological disorders such as borderline personality disorder, recurrent depression and anxiety disorders (Arch & Craske, 2006).   The effectiveness of mindfulness-based interventions has been established in the treatment of numerous conditions that include:

- Chronic depression (Graser, Höfling, WeBlau, Mendes, & Stangier, 2016)
- Chronic pain (Grossman, Tiefenthaler- Gilmer, Raysz & Kesper, 2007)
- Anxiety (Roemer, Orsillo & Salters-Pedneault, 2008)
- Reducing the frequency and severity of substance misuse and increasing post treatment abstinence (Li, Howard, McGovern & Lazar, 2017)
- The treatment of insomnia (Peng & Jiang, 2016), eating disorders (Tapper et al., 2009)
- Improving symptoms of Attention Deficit Hyperactivity Disorder (ADHD) (Zylowska et al., 2008)
- Dealing with trauma (Kalmanowitz & Ho, 2016)
- Supporting resilience and working with multiple levels of loss after extreme and traumatic experiences (Kalmanowitz & Ho, 2016)
- Dealing with burnout and compassion fatigue (Duarte & Pinto-Gouveia, 2016), as well as
- Improving general well-being (Carmody & Baer, 2008).

3.5.2 Mindfulness: State and trait

Whilst mindfulness can be cultivated as a quality fostered through training (Garland, Gaylord & Park, 2009), it is also considered to be an inherent human capacity – that is, people are born with the ability to be mindful (Kabat-Zinn, 2005). Mindfulness can therefore, be regarded as an inherent state of consciousness (Brown & Ryan, 2003), and can be perceived as either a state (occurring through mindfulness practice) or a trait (already evident as per individual brain activity and structure) (Treadway & Lazar, 2010).

Kieken, Garland, Bluth, Palsson and Gaylord (2015) explained that trait mindfulness and state mindfulness are closely related. Accordingly, mindfulness practices (that is, constantly cultivating state mindfulness) increase trait mindfulness and increases in trait mindfulness increase state mindfulness. Also, there is a growing body of research that shows the relevance and psychological benefits of both state and trait mindfulness (Brown & Ryan, 2003).

The current study looked at mindfulness as an inherent human capacity – that is, trait mindfulness. Brown and Ryan (2003) maintained that trait mindfulness can be regarded as a distinguishable, reflective aspect or construct of consciousness, which is different from other aspects of consciousness such as openness to experience, self-monitoring and private self-consciousness. Accordingly, individual differences are at play; that is mindfulness can be considered an attribute that people have to a greater or lesser degree.

The study conducted by Brown and Ryan (2003) provided empirical evidence for differences in the degrees of trait mindfulness. The study also reported that high trait mindfulness can be related to higher levels of personal well-being and improvement in a variety of areas of functioning. Furthermore, high trait mindfulness can be associated with high levels of life satisfaction, high self-esteem, vitality, optimism and pleasant affect. High levels of trait mindfulness have also been found to positively correlate with openness to experience, self-compassion and emotional intelligence, and negatively correlates with neuroticism and psychological symptoms (Baer et al., 2006). According to Brown and Ryan (2003) the latter is due to the fact that trait mindfulness has the ability to moderate the effects of daily levels of negative affect.

Hence, higher levels of trait mindfulness have been found to decrease both stress and anxiety (Weinstein, Brown & Ryan 2009). The findings of a study conducted by Greenson (2009) conveyed similar findings – that higher natural levels of mindfulness were associated with less stress, anxiety, depression, general happiness and more satisfaction with life.

3.5.3 Mindfulness and coping: The mechanisms of action

To date, a wide range of applications of mindfulness has been documented. However, there are still questions around the exact mechanisms involved, which contribute to its effectiveness. Even so, the mechanisms of mindfulness are regarded as potentially effective antidotes against common forms of psychological distress such as rumination worry and anxiety; which often involve maladaptive tendencies such as avoidance, suppression as well as over engagement in distressing thoughts and emotions (Kabat-Zinn, 1990). More specific to the current study, mindfulness has been found to decrease reported stress, depression and anxiety.

Garland, Gaylord and Park (2009) drew from Lazarus and Folkman's (1984) transitional theory of stress in explaining how mindfulness can enhance coping processes. Accordingly, individuals can use mindfulness to initiate adaptive responses by decentering the stress appraisal. The decentering of thoughts is seen as a way of relating to thoughts, in which thoughts are observed as transitory mental phenomena that do not reflect on personal worth or require particular responses (Baer, 2010). Decentering the stress appraisal allows for positive reappraisal (an adaptive process of re-construing stressful life events as nonthreatening). Garland, Gaylord and Park (2009) maintained that the positive reappraisal in mindfulness forms an essential part of meaning-based coping, which assists with successful adaptation.

The metacognitive aspect of mindfulness enables individuals to perceive stressful life events as transient   and not as fixed reality. This aspect further enables individuals to moderate the impact of the stressful content by creating a space to reflect – that is, decentering. Nauriyal, Drummond and Lal (2006) explained that the creation of this internal space allows for the detachment to cognitive-affective processes, which enables the individual to reflect on his/her experiences.

Bishop et al. (2004, p. 232) supported the assertion by Nauriyal et al. , Drummond and Lal by explaining that "in a state of mindfulness, thoughts and feelings are observed as events in the mind, without over-identifying with them and without reacting to them in an automatic, habitual pattern of reactivity." Accordingly, this dispassionate state of self-observation is thought to introduce a space between one's perception and response to events/experiences. Thus, mindfulness is thought to enable one to respond to situations more reflectively (as opposed to reflexively). As a result, mindfulness enables individuals to be more cognisant of the impact of life events and the related emotional experiences. Hence, Baer et al. (2006) maintained that the self-observation feature of mindfulness could promote the use of coping skills.

The findings of the study conducted by Weinstein, Brown, and Ryan (2009) provided a further demonstration of the mechanisms of mindfulness, particularly in dealing with stress and promoting psychological well-being. The findings also showed that mindfulness changes cognitive appraisals of experience by altering the quality of attention focused on the event, reducing negative emotions and cognitions, thus minimising the propensity to perceive situations in a stress-inducing manner. The prediction is that being mindful of experiences will minimise the need to utilise behavioural and cognitive strategies to avoid experiences (Bishop et al., 2004).

Deci and Ryan (2000) concurred with Bishop et al. (2004) and stated further that mindfulness can deter individuals from engaging in habitual thoughts and unhealthy behaviour patterns, which could lead to self-endorsed behavioural regulation. Teasdale (as cited in Yiend, 2004) explained that the intentional and experiential aspects of mindfulness help individuals avoid automatic, habitual cognitions by focusing on the experiences of the moment (present) and not be oriented to the past or future – hence Gilbert (2005) maintained that mindfulness trains the mind to cope with thoughts and feelings that emerge by allowing those thoughts and feelings to emerge in the mind without judging and reacting to them. However, this is not a process of suppressing/avoiding thoughts and feelings – but rather a process of acknowledging thoughts and feelings, observing them, but not allowing them to be a distraction at that moment (Bishop et al., 2004). By being mindful of our difficult physical and emotional experiences we minimise our judgment of those experiences and bring ourselves to accept the experiences. The process of acceptance is crucial and is regarded as a necessary step that precedes behaviour change (Germer, Siegel & Fulton, 2005).

Neff (2003) recognised that mindfulness can help individuals separate themselves from negative experiences and induce feelings of self-kindness and self-compassion in the process. According to Neff the non-judgemental and acceptance characteristics of mindfulness can lessen self-criticism and increase self-understanding.

Furthermore, elements of mindfulness, awareness and non-judgemental acceptance of one's moment-to-moment experiences are regarded as effective antidotes against forms of psychological distress – these include rumination, anxiety, worry, fear and anger (Keng, Smoski & Robins, 2011). Hence, Jon Kabat-Zinn (2005) maintained that the effectiveness of mindfulness is based on seven attitudinal foundations of mindfulness – namely non-judging, patience, beginner's mind (defined as an "open, fresh, curious, present here and now, natural free and uncluttered" mind) (Gordon-Graham as cited in Moniz, Eshleman, Henry, Slutzky, & Moniz, 2016, p. 7), trust, non-striving, acceptance and letting go.

Shapiro, Carlson, Astin and Freedman (2006), in explaining the mechanisms of mindfulness, drew from Kabat-Zinn's (2005) definition of mindfulness and focused on three components of mindfulness – which are intention, attention and attitude. Intentions are regarded as crucial for understanding the whole process of mindfulness, set the stage for what is possible and are regarded as a moment-to-moment reminder of the reasons behind the practising of mindfulness. Intentions are seen as providing the "shift along a continuum from self-regulation, to self-exploration, and finally to self-liberation" (Shapiro et al., 2006, pp. 375-376). Attention is seen as suspending all the ways of interpreting and observing one's moment-to-moment internal and external experiences. This component is regarded as crucial in the healing process of mindfulness. Attitude incorporates awareness and has to do with the manner (the how) in which we attend to experiences. Shapiro et al. (2006) explained that acceptance of all experiences is cultivated through intentionally bringing the attitudes of patience. Accordingly, this develops the capacity not to continually strive for pleasant experiences or push unpleasant experiences away.

Baer et al. (2006) explained that mindfulness can be seen as comprising five facets. The facets are, **observing** – this involves attending and noticing internal and external processes such as emotions, cognitions and noting stimuli through our senses, **describing** – which entails noting and labelling the internal and external stimuli, **acting with awareness** – that is fully attending to the stimuli and not being absent minded and behaving automatically, n**on-judging of inner experiences** – which means being able to evaluate one's cognition, emotions and sensations without being judgemental; and n**on-reactivity to inner experience** – which is the ability to allow thoughts and feelings without attending to them (that is, getting caught up in them).

Baer (2010) regarded the effectiveness of decentering as the first of the eight principles in the effectiveness of mindfulness – and includes the psychological flexibility of mindfulness as the second principle. This can be defined as "mindful awareness of the present moment and willingness to experience unpleasant or unwanted internal stimuli (thoughts, sensation, emotions) while either changing or maintaining overt behaviour in the service of important goals and values" (Baer, 2010, pp. 8-9). The third principle listed is values, and entails the ability to think deeply about what is important in one's life and identify behaviours that are crucial in moving forward to the identified direction. The fourth principle identified is emotion regulation; and can be defined as an awareness and acceptance of all emotions as they arise, and controlling and inhibiting maladaptive impulsive behaviour by rather engaging in goal-directed behaviour. The fifth principle is self-compassion, which can be defined as treating oneself with kindness rather than judgement by recognising painful emotions and hardships as part of the human experience. The sixth principle is spirituality – this aspect, although not commonly referred to in mainstream psychology, is discussed here due to its importance as one of the dimensions of human functioning – mindfulness is seen as a way of increasing spirituality, which can lead to improvements in other domains of psychological functioning. The seventh principle is changes in the brain, which has been suggested by numerous researchers on neuroimaging, which shows that mindfulness can lead to changes in the structure and the function of the brain (this will be discussed in more detail later). The last principle is changes in attention and working memory – the view is that "repeated practice (of mindfulness) might lead to generalized changes in attention skills, which are closely related to working memory capacity" (Baer, 2010, p. 10).

The study by Hölzel, Lazar, Gard, Shuman-Olivier, Vago, and Ott (2011) also contributed to the understanding of the mechanisms of mindfulness – these researchers maintained that the effects of mindfulness can be attributed to four mechanisms of action. Accordingly, these are **attention regulation**, which is the ability to sustain attention on a specific event or object and marinating that attention even with distraction; **body awareness**, which focuses on internal processes (for example, breathing and or body sensations); **emotion regulation**, which entails being aware of one's emotions and being able to react to those emotions in a non-judgemental way; and lastly, **change in perspective on the self,** which entails detaching from identifying with a static sense of self. The latter four mechanisms "work synergistically, to establish a process of enhanced self-regulation" (Hölzel et al., 2011, p. 537).

It is evident from the discussions above that there are common factors in the explanations of the mechanisms of mindfulness. As Vago and Silbersweig (2012) maintained, all given explanations are common in their emphasis on present-centred orientation of awareness, an attitude that consists of a constellation of positive state-like qualities and development of a form of decentering or psychological distancing from one's thoughts and emotions.

However, even with all arguments advanced in literature, Coffey, Hartman and Fredrickson (2010) maintained that there are areas of caution. Accordingly, there are concerns regarding the use of multiple, unrelated definitions of mindfulness that makes it difficult for us to have a clear understanding of the core construct. This has led to calls for certain interpretations and applications of mindfulness to be accepted and applied with cautions. Moreover, authors such as Monteiro, Musten & Compson (2015) have wondered if non-judgemental awareness in mindfulness can result in negative attitudes such as self-indulgence and passivity in individuals. This passivity, according to Amaro (2015), can result in psychological distancing, where individuals become "watchers" of their experiences in a detached manner, resulting in various negative outcomes, which includes alienation and depression.

Hence, Monteiro et al. (2015) suggested rather that individuals engage in what they refer to as informed mindfulness; where the goal is the well-being of oneself and others, and encompasses elements of kindness and compassion. This is fundamental to Buddhist mindfulness, where ethical discernment and cultivation of wholesome emotions are central to one's being (Dorjee, 2010).

Accordingly, both in Buddhist mindfulness and in mindfulness as perceived in the psychological context, the practice should be based on five dimensions, namely intention and context of mindfulness practice, bare attention, attentional control, wholesome emotions and ethical discernment (Dorjee, 2010).

Bishop et al. (2004) supported the intentional component of mindfulness, which is perceived as the ability to intentionally regulate attention and observing thoughts, feelings and other physical stimuli. This component entails the acceptance-based component of mindfulness, which is perceived as being open and receptive to experiences rather than being judgemental, minimising or ignorant of experiences. Brown and Ryan (2003) supported the attentional control of mindfulness – that is being aware and attentive to present moments and experiences.

Since the explanations given above indicate psychological and neurobiological mechanisms that are involved in mindfulness, the following section will survey the literature on both psychological and neurobiological explanations.

3.5.3.1 The mechanisms of mindfulness: The comparison to cognitive behavioural therapy

Similarities are often drawn between the mechanisms of mindfulness and cognitive behaviour therapy. According to Teasdale (cited in Yiend, 2004) mindfulness can be regarded as a cognitive mode, and if perceived in that light, we can begin to understand how it can assist in relapse-related processing by reversing the effects of ruminative cognition (a compulsive focus on one's causes of distress). As Gilbert (2005) explained, mindfulness and cognitive behaviour therapy are both about helping individuals to understand "how their thoughts emerge, the consequences of certain types of thoughts and desires, and how to train the mind to cope with these thoughts and desires" (p. 245).

Emerging studies similar to the one conducted by Carmody and Baer (2008) showed that the practice of mindfulness, similar to cognitive behaviour therapy leads to symptom reduction and improved well-being.

Similarly, the findings of a study conducted by Desrosiers, Vine, Klemanski and Nolen-Hoeksema (2013) supported the latter – the findings supported the role of mindfulness and emotion regulation in depression and anxiety, and reinforced the role of mindfulness in dealing with rumination, non-acceptance, worry and reappraisal associated with depression and anxiety. These positive results were attributed to the non-judgmental aspect of mindfulness that lessens by moderating abstract self-evaluation thoughts that often lead to depression and anxiety.

3.5.3.2 The mechanisms of mindfulness: Neuroplasticity findings

The effects of mindfulness are attributed to its ability to reduce stress-reactivity in several brain regions (including the amygdala and the anterior-mid insula) (Kober, Brewer, Height & Sinha, 2016).   Hence, there is growing interest to operationalise mindfulness by understanding the neurobiology of meditators (Fletcher, Schoendorff & Hayes, 2010).

Hasenkamp and Barsalou (2012) reported that mindfulness increased connectivity within attentional regions and medial frontal regions, which are involved in the development of cognitive skills. These findings suggest that mindfulness can enhance brain networks that improve attention and internal body awareness and decrease networks involved in mind wandering.

Mindfulness seems to be good for the mind, and is also capable of changing the structure of the brain by increasing the density of the gray matter in the regions of the brain associated with memory and learning. Hence, there is growing research interest in the relationship between mindfulness intervention and gray matter concentration.

For example, a study conducted by Hölzel et al. (2010), using anatomical magnetic resonance images of participants who had never taken part in mindfulness meditation practices showed changes in the gray matter concentration prior to participating in an eight-week programme and after (Mindfulness-Based Stress Reduction – MBSR). The findings suggested that participation in MBSR could lead to changes in gray matter concentration in brain regions involved in learning and memory processes, emotion regulation, self-referential processing and perspective taking.

Mindfulness has also been associated with neuroplastic changes, which have been observed in numerous other areas of the brain; including the anterior cingulate cortex, insula, temporo-parietal junction, fronto-limbic network, and default mode network structures (Hölzel et al., 2011). Similar observations were reported by the findings of several other studies, where the practice of mindfulness led to changes in the amygdala, consistent with improved emotion regulation (Gotink, Meijboom, Vernnoij, Smith & Hunink, 2016).

The documented findings are also applicable to individuals with high trait mindfulness and are more specific to the current study. The findings of the study conducted by Lu et al. (2014) involving individuals with high trait mindfulness that revealed greater gray matter volume showed that this was noticeable in the right hippocampus/amygdala and bilateral anterior cingulate cortex.

Furthermore, there seems to be a link between behavioural changes and changes in specific brain areas. A study conducted by Hölzel et al. (2011) associated changes in the anterior cingulate cortex to enhanced performance on executive attention and changes in the insula. Furthermore, temporo-parietal junction has been linked to enhanced bodily awareness – changes in the prefrontal cortex have been linked to increases in positive emotion regulation – changes in posterior cingular cortex, insula, and temporo-parietal junction have been linked to changes in self-concept while changes in the hippocampus and amygdala have been linked to increases in non-reactivity to inner experiences.

Another study conducted by Modinos, Ormel and Aleman (2010) investigating individual differences in mindfulness and brain activity involved in the reappraisal of emotion showed activity in the neural regions and dorsomedial prefrontal action increase, with more mindful traits. Modinos et al. further noted that this prefrontal action was inversely correlated with the amygdala response to negative scenes, further "supporting its role in down-regulating emotion-generation regions" (p. 369). Accordingly, the findings supported the assertion by other studies that mindfulness plays a role in moderating activity in neural systems involved in the effective cognitive control of negative emotion.

Similarly, the findings of the study conducted by Kilpatrick et al. (2011) revealed that a relationship exists between mindfulness and changes in numerous parts of the brain.

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The observed changes included increased functional connectivity within auditory and visual networks, increased functional connectivity between auditory cortex and areas associated with attentional and self-referential processes, stronger anti correlation between auditory and visual cortex, as well as areas associated with attentional processes. Kilpatrick et al. (2011) concluded that their study supports the assertion that mindfulness interventions can change intrinsic functional connectivity that can assist in improving attentional focus, reflective awareness of sensory experiences and sensory processing.

The results of the study conducted by Chiesa and Serretti (2010) explained the latter and showed that mindfulness practice could lead to a substantial escalation in the alpha and theta activity during meditation. Chiesa and Serretti (2010) further maintained that neuroimaging techniques allow for the observation of the effects of mindfulness and its activation of prefrontal cortex and the anterior cingulate cortex, which is associated with the enhancement of cerebral areas related to attention.

However, despite growing interest, Dorjee (2010) maintained that we are still far from understanding the components and mechanisms of the brain that are associated with mindfulness and how they relate to the different effects of mindfulness Moreover, there is evidence that suggests that mindfulness does not only influence the brain, but can influence the autonomic nervous system, stress hormones, and the immune system (Greenson, 2009).

3.5.4 Mindfulness and coping: Empirical findings

There are clear indications of a negative relationship between trait mindfulness and perceived stress and its subsequent anxiety (Weinstein, Brown & Ryan, 2009). For example, a study conducted on cancer patients using Mindful Awareness Attention Scale (MAAS), a mindfulness questionnaire assessing trait mindfulness revealed that increases in scores were related to decreases in mood disturbance and stress symptoms (Baer et al., 2006).

Another study conducted by Ghorbani, Watson and Weathington (2009) revealed that trait mindfulness can promote greater perspective taking. High levels of trait mindfulness have also been linked to higher levels of ecologically-responsible behaviour and subjective well-being (Brown & Kasser, 2005). Furthermore, high levels of trait mindfulness have been linked to higher levels of optimism, vitality, and life satisfaction (Brown & Ryan, 2003).

Brown and Ryan also indicated that individuals who scored high on the mindfulness trait showed lower levels of intensity and frequency of unpleasant affect. Moreover, people who score high on mindfulness have been found to be able to better regulate their day-to-day behaviour, adapt better and also showed psychological resilience under stressful situations (Trousselard et al., 2012). Mindfulness also seems to increase a sense of self-acceptance and responsibility to care for oneself (Brandy, O'Connor, Burgermeister & Hanson, 2012). Davis and Hayes (2012) explained that mindfulness can reduce rumination, resulting in less negative thoughts.

Mindfulness is also perceived as a technique of relating to all human experiences, whether positive or negative; which allows an individual to be less reactive and therefore, less vulnerable to negative states. In this way mindfulness can lessen one's overall suffering and increase their sense of well-being (Germer, Siegel & Fulton, 2005).

Moreover, mindfulness seems to enhance individuals' tolerance of uncomfortable emotions and sensations, emotional acceptance of life experiences, and lower the duration and impact in the recovery of negative emotional events (Arch & Craske, 2006). Desrosiers et al. (2013) explained that it is important to accept unpleasant emotional experiences as non-acceptance has been linked to negative reactions to experiences, and has also been associated with higher levels of psychopathology.

Evidence from research suggests that mindfulness improves concentration and information processing speed (Rothschild, Kaplan, Golan & Barak, 2017), as well as self-referential processing, executive attention and emotion regulation (Lu et al., 2014). A study conducted by Moore and Malinowski (2009) on the impact of mindfulness and cognitive flexibility demonstrated that mindfulness can improve attentional functions and cognitive flexibility.

The findings of a study conducted by Teper and Inzlicht (2013) showed that mindfulness can have positive effects on executive control – in the sense that it can lead to fewer errors and therefore, a higher error-related negativity and more emotional acceptance compared to controls. The latter effect was found to be a result of heightened emotional acceptance and increases in brain-based performance monitoring.

3.5.5 Mindfulness in the context of higher education

Studies such as the one conducted by Winsner, Jones and Gwin (2010) provided empirical evidence that suggests that mindfulness plays a role in enhancing academic and psychosocial strengths by improving self-regulation and coping abilities. In the same vein, the findings of this study suggest that components of mindfulness are associated with more adaptive patterns of functioning for students in institutions of higher learning.

In addition, the associated components of mindfulness that promote the acceptance and tolerance of difficult thoughts and feelings, as well as promote persistence in positive behaviours are important attributes that students require to navigate in a new environment and cope with the stressors associated with being enrolled for the first time in an institution of higher learning.

Moreover, for first-year students in institutions of higher learning the unique stressors that are associated with the new social and academic environment are likely to elicit stressful thoughts and feelings. Thus, students who are able to navigate through these experiences through the implementation of mindful cognitive and behavioural patterns may demonstrate adaptive patterns. The findings of a study conducted by Ahmadi, Mustaffa, Haghdoost and Alavi (2014) provided empirical support for the application of mindfulness principles in institutions of higher learning. It is thus clear that the past three decades have seen a growth in the popularity of mindfulness in institutions of higher learning, as well as interest in the psychological benefits of mindfulness for students in institutions of higher learning (Coffey, Hartman & Fredrickson, 2010).

3.3.5.1 Mindfulness and coping in higher education contexts: Empirical findings

There is growing evidence that suggests that mindfulness plays a role in reducing symptoms associated with psychological distress among students. Mindfulness is seen as a useful tool for adaptive coping for students, particularly among first-year students experiencing various social, personal and academic stressors (Dyson & Renk, 2006). It is argued that mindfulness can be effective in assisting students to reduce stress and anxiety levels (Bamber & Schneider, 2016).

Moreover, there is emerging support for the integration of mindfulness as a stress-reducing tool that can assist students with adaptive coping and resilience strategies (Mrazek, Franklin, Phillips, Baird & Schooler, 2013; Tan & Martin, 2012).

A study conducted by Ahmadi et al. (2014) showed that higher levels of mindfulness in students in institutions of higher learning can improve their physical   and mental well-being. The findings of a study conducted by Gordon et al. (2014) also demonstrated improvements in students' psychological well-being, confirming the assertion that mindfulness can promote the ability to regulate emotion in students in institutions of higher learning, particularly students experiencing stress, anxiety, and low mood.

The findings of a study conducted by Prozak et al. (2012) that investigated the role of mindfulness on the physical and psychological well-being of students in institutions of higher learning revealed that mindfulness can be associated with desirable personality traits, psychological health, and may also assist in predicting social inhibitions in students in institutions of higher learning.

These benefits were mainly attributed to the ability to accept and be non-judgmental to one's thoughts and feelings. Similar findings reported in a study conducted by Canby, Cameron, Calhoun and Buchanan (2015), which demonstrated that mindfulness significantly reduces psychological distress and increases subjective vitality and self-control. It was concluded that mindfulness can have wide-ranging positive effects on students in institutions of higher learning, when employed as a preventative tool.

Mindfulness has also been observed to lower the frequency of negative automatic thoughts and enhance the ability to let go of those thoughts (Frewen, Evans, Maraj, Dozois & Patridge, 2008). It has also been argued that mindfulness enhances students' capacity to willingly experience the thoughts and emotions elicited by difficult or stressful experiences (Brown, Ryan & Creswell, 2007) – that is, mindfulness can assist students to live in the present moment and accept their stressors without judgement.

Burke and Hawkins (2012) maintained that mindfulness can assist students to focus inwardly (look/recognise their views and beliefs) by enabling them to engage more in critical thinking.

Roemer and Orsillo (2003) also found that mindfulness can promote greater meta-cognitive insight as well as cognitive flexibility, which can be defined as the ability to adapt cognitive processing in new and unexpected conditions or situations. The findings of a study conducted by Weinstein, Brown and Ryan (2009) supported the assertion by Roemer and Orsillo, and has revealed that a positive correlation exists between higher mindfulness scores and greater use of adaptive coping and less avoidance coping strategies over a period of one month.

Moreover, a study conducted by Araas (2008) showed that high levels of mindfulness significantly correlate with higher self-efficacy lower perceived stress and less high risk behaviours that impact positively on adjustment in first-year students. Follow-up studies similar to the one conducted by Benn et al. (2012) provided empirical evidence that suggests that the positive psychosocial effects of mindfulness in students in institutions of higher learning cannot only be maintained, but can also be increased.

There is also evidence that suggests that mindfulness can be related to higher-order neurocognitive control processes in students in institutions of higher learning. Short, Mazmanian, Oinonen and Mushquash (2016) conducted a study on executive functions and self-regulation capacities and their relationship to dispositional mindfulness and well-being involving a group of 77 undergraduate students. The findings showed that the facets of mindfulness, specifically acting with awareness and non-judgement, strongly relate to executive functions and well-being outcomes. Describing and acting with awareness were found to be strongly related to self-regulation. The findings further revealed that neurocognitive control is related to self-regulation and positive affect.

Similarly, the effectiveness of mindfulness in assisting students in institutions of higher learning to cope with stressors was evident in students dealing with numerous clinical conditions. Costa and Barnhofer (2016) found that mindfulness can reduce the symptoms of depression. The findings of a study conducted by Falsafi (2016) supported the assertion that mindfulness equips students with the skills to cope with depression by reducing the symptoms.

Another study conducted by Broderick (2005) on mindfulness and the ability to cope with dysphoric mood disorders revealed a significant improvement in mood associated with mindfulness. Furthermore, the findings provided empirical evidence of the role of mindfulness in interrupting the negative cycle involved in ruminative coping styles and negative affectivity, which result in dysphoric mood disorders and depressive episodes. Moreover, these effects were evident in individuals with severe symptoms of depression such as suicidal ideation (Forkmann, Brakemeier, Teismann, Schramm & Michalak, 2016).

According to Falsafi (2016), mindfulness was found to be effective in reducing symptoms of anxiety and in increasing self-compassion in students. A naturalistic longitudinal study conducted by Dundas, Thorsheim, Hjeltnes and Binder (2016) showed that mindfulness can reduce cognitive and emotional components of evaluation anxiety in students – this includes test anxiety, exam anxiety and performance anxiety. Accordingly, mindfulness can also promote self-confidence in students. Similar findings were reported in a study conducted by Solhaug et al. (2016), where it was found that mindfulness can enhance the level of self-acceptance and tolerance in students, cultivate patience and also enhance their abilities to form and maintain relationships. Furthermore, some students who participated in the study also reported that they considered mindfulness a form of a coping resource – that is, mindfulness was seen as an efficient form of instrumental task-oriented coping.

Mindfulness has also been reported to benefit students in their academic performance (Araas, 2008). There is clear evidence that mindfulness can boost working memory, cognitive flexibility, and focus (Davis & Hayes, 2012). Chambers, Lo and Allen (2008) concurred with this assertion and maintained that mindfulness can enhance working memory capacity and also improve attention. The findings of a study conducted by Mrazek et al. (2013) provided empirical evidence for this assertion and showed that mindfulness can improve cognitive function and performance by improving working memory capacity, reading comprehension scores, and also reducing the occurrence of distractive thoughts, which result in mind wandering before and during task performance. However, the findings of studies similar to the one conducted by Altairi (2014) suggest that the impact of mindfulness in first-year students' academic performance could be mediated by other factors. In that study it was reported that students with higher levels of mindfulness experienced lower levels of trait cognitive test anxiety, which enabled them to obtain higher scores during exams.

A study by Broderick and Jennings (2012) showed that mindfulness can serve as an effective tool in helping students to remain calm in the midst of unpleasant situations, thereby improving planning, organisational and study skills. In the same vein, Docksai (2013) maintained that the reduction in levels of test anxiety in students can be attributed to the ability of mindfulness to enhance memory and concentration. Furthermore, the ability to focus on the task at hand may help students to divert their focus from the physiological reactions associated with the emotions, a tendency which might affect performance (Wine, 1971).

Brown et al. (2007) found that mindfulness can benefit students in the process of goal pursuit, goal attainment and adaptation to events and experiences. This assertion is supported by the findings of a study conducted by Evans, Baer and Segerstorm (2009) on the relationship between students' level of mindfulness and persistence on a difficult task; that showed that trait mindfulness increased the level of persistence.

The academic benefits mentioned above are also evident in a study conducted by Docksai (2013) involving a group of university students, where the findings demonstrated that mindfulness can help students to improve their grades average. Students' scores obtained from Graduate Records Examination (GRE) were analysed prior to their engagement in mindfulness exercises and after. The results showed a 16% increase in scores between their first test (before engaging in mindfulness) and their second test (after engaging in mindfulness) than the control group. Also, a study conducted by Schwager, Hülsherger, and Lang (2016) showed that mindfulness can have a positive effect on students in the sense that it also can influence professional and academic behaviour by being instrumental in mediating counterproductive academic behaviours.

Although limited, there is evidence from similar findings in the South African context – for example, a study conducted by Teodorczuk (2013) involving a group of students at the University of Johannesburg indicated that mindfulness can serve as a useful tool in enhancing students' academic success, thus offering benefits for university students in South Africa.

3.6 Conclusion

This chapter discussed mindfulness and self-consciousness as different components of self-awareness. The chapter surveyed literature on mindfulness and self-consciousness as psychological coping resources. According to DaSilveira, DeSouza and Gomes (2015) self-consciousness seems to focus on past experiences and judge concepts that have already been processed, while mindfulness focuses on present experiences, in which one is aware of, without any judgement. The literature on both mindfulness and self-consciousness as coping resources for students in institutions of higher learning was examined.

Chapter four outlines the research methodology adopted for the current study.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 Introduction

This chapter describes the research methodology used in the study. An overview is given of the intended and executed research activities incorporated into the empirical research process. The chapter describes the steps followed in an attempt to answer the research questions outlined in chapter one. The chapter covers the six research objectives, the research questions and hypotheses, as well as the research design. The data collection methods and processes, the reliability and validity of the research instrument, data analysis methods as well as ethical considerations are discussed.

4.2 Objectives of the study

Erikson's theory of psychosocial development highlights the importance of identity development during the developmental stages of identity versus role confusion and more specifically during the emerging adulthood stage, when most students are transitioning from high school to institutions of higher learning. Furthermore, student development theories hold that there are internal and external factors that can affect the development of students during the first year of study. Accordingly, students come to institutions of higher learning with different attributes and experience that impact on students' adjustment – this in turn impacts on students' academic performance (Chickering & Reisser, 1993; Tinto, 1975).

Therefore, students' academic success seems to depend, among other factors, on how well they adjust to the university environment. Furthermore, the first-year experience requires that students go through a transitional period, which is a period when students develop new identities as persons in institutions of higher learning (Schlossberg, Waters & Goodman 1995). During this period, students need to adjust to the new environment, manage the stress and cope with new experiences in order for them to succeed academically (Tinto, 1993; Schlossberg, 1995). Therefore, students need to have coping resources that will enable them to deal with the stress associated with the transition (Schlossberg, Waters & Goodman, 1995).

Based on the arguments presented by student development theories as well as the arguments presented by Schlossberg's transitional theory of student development (see chapter two), it was considered beneficial to evaluate the value of two specific constructs of self-awareness, which is perceived as a psychological coping resource during this stage of student development. The self-awareness constructs that were examined in the current study are self-consciousness and mindfulness. The researcher intended to explore the relationship between self-consciousness and mindfulness in determining student success in their first year of study – specifically with regards to adjustment and academic performance.

The main objective of the study was to investigate whether there are differences in first-year university students' level of adjustment and academic performance in relation to mindfulness and self-consciousness.

Much research has been conducted, involving university students on self-consciousness (e.g. Aamodt & Keller, 1981; Plant & Ryan, 1985; Schomburg & Tokar, 2003) and mindfulness (e.g. Araas, 2008; Evans, Baer & Segerstorm, 2009; Teodorczuk, 2013). Emerging research findings have indicated that mindfulness and self-consciousness have positive effects on students' affect and behaviour (e.g. Harrington, Loffredo & Perz, 2014). Also, there is evidence of the effects of mindfulness and self-consciousness on students' adaptation and persistence (Evans et al, 2009). However, there is paucity of research on the effects of mindfulness and self-consciousness on adjustment and academic performance of first-year university students. It is expected that the research hypothesis will confirm that differences in first-year students' adjustment and academic performance will reveal their relationship with levels of mindfulness and self-consciousness.

4.3 Research questions and hypotheses

Based on the objectives of this study, the research questions and hypotheses were formulated as follows:

Question one and related hypotheses
- Are first-year students' levels of self-awareness in terms of mindfulness and self-consciousness affecting their levels of anxiety and depression and experienced adjustment disorder symptoms?

<u>Mindfulness</u>

H1= High scores in mindfulness show a positive correlation to adjustment of first-year students. Mindfulness negatively correlates with adjustment disorder symptoms, depression and anxiety – that is, students with higher levels of mindfulness are less likely to experience difficulties in adjusting, and this translates into fewer symptoms of adjustment disorder as well as lower levels of depression and anxiety.

H0= There is no significant difference between first-year students with high scores in mindfulness and those with low scores in mindfulness in terms of their adjustment. There are no differences between levels of mindfulness, adjustment disorder symptoms and depression and anxiety levels.

<u>Self-consciousness</u>

H2= High scores in self-consciousness show a positive correlation to adjustment of first-year students. Students with higher levels of self-consciousness are less likely to experience difficulties in adjusting – and this translates into lower levels of depression and anxiety.

H0= There is no significant difference between first-year students with high scores in self-consciousness and those with low scores in self-consciousness in terms of their adjustment. There are no differences between levels of self-consciousness, adjustment disorder symptoms and depression and anxiety levels.

It must be stated that with regard to hypothesis 2 (H2) and hypothesis 4 (H4) regarding the construct of self-consciousness, the instrument used has sub-scales of private mindfulness, public self-consciousness and social anxiety, which allow for a more detailed interpretation of the findings. Based on the literature reviewed in chapter two, the researcher hypothesised that there will be differences in terms of how the three sub-scales interact with the dependent variables, that is, the adjustment (depression, anxiety and adjustment disorder symptoms) and academic performance. The different hypotheses are as follows:

- Private self-consciousness

Private self-consciousness correlates positively with adjustment and academic performance.

- Public self-consciousness

Public self-consciousness correlates negatively with adjustment and academic performance.

- Social anxiety

Social anxiety correlates negatively with adjustment and academic performance.

Question two and the related hypothesis

- Student development theories (see chapter two) maintain that there is a need to be aware of excessive and overwhelming emotions (e.g. fear, anxiety and depression) that students experience and to find appropriate means of dealing with these emotions (Chickering, 1969; Schlossberg & Chickering, 1995; Tinto, 1993). Accordingly, these emotions could affect how first-year students adjust and this could have an impact on their academic performance. This then, necessitates the following question:

- Are adjustment variables (depression, anxiety and adjustment disorder symptoms) impacting on the academic performance of first-year students?

H3= There is a positive correlation between first-year students' adjustment and academic performance. Therefore, depression, anxiety and adjustment disorder symptoms correlate negatively with academic performance.

H0= There is no correlation between first-year students' adjustment and academic performance. Therefore, there is no correlation between depression, anxiety and adjustment disorder symptoms and academic performance.

Question three and the related hypotheses

- Are students' levels of self-awareness in terms of mindfulness and self-consciousness affecting their academic performance during the first year of study?

Mindfulness

H4= High scores in mindfulness have a positive correlation to the academic performance of first-year students. Students with higher levels of mindfulness are more likely to perform better academically.

H0= There is no significant difference between students with high scores in mindfulness and those with low scores in mindfulness in terms of their academic performance.

Self-consciousness

H5= High scores in self-consciousness show a positive correlation to the academic performance of first-year students. Students with higher levels of self-consciousness are more likely to perform better academically.

H0= There are no significant differences between students with high scores in self-consciousness and those with low scores in self-consciousness in terms of their academic performance.

Research question four and the related hypotheses

- Are there differences in terms of the impact of the independent (mindfulness and self-consciousness) variables on the dependent variables (adjustment disorder symptoms, depression, anxiety and academic performance)?

H6= Mindfulness will impact or mostly predict students' adjustment and academic performance than self-consciousness.

H0= There will be no significant difference between the impact of levels mindfulness and self-consciousness on students' adjustment and academic performance. That is, mindfulness and self-consciousness will equally predict students' adjustment and academic performance.

Research question five and the related hypotheses

- Are adjustment variables (adjustment disorder symptoms, depression and anxiety) mediating the effect of the independent variables (mindfulness and self-consciousness) on students' academic performance (mean of marks)?

H7=Adjustment disorder symptoms, depression and anxiety mediate the effect of mindfulness and self-consciousness on students' academic performance.

H0= No significant mediation effect will be observed in the relationship between mindfulness, self-consciousness, adjustment disorder variables (adjustment disorder symptoms, depression and anxiety) and academic performance.

4.4 Research approach and design

The current study employed a quantitative, non-experimental, correlational, cross- sectional research methodology. A quantitative method was considered appropriate for the current study because it allows for the determination of relationships between variables. The method also allows for the objective measurement and statistical analysis of data collected through questionnaires and surveys and for the generalisation of the findings across a population (Babbie, 2010). The study explored the links between variables; hence it is explorative – that is the study sought to ascertain whether a causal relationship exists between the relevant variables.

The study explored the influence of mindfulness and self-consciousness on the dependant variables of adjustment and academic performance with the intention of extending the findings to the general population beyond the current sample – and this makes the design of the study as inferential.

Although a correlational research design may not prove causation, it can be useful in identifying data trends and patterns that can assist in identifying predictive relationships between variables (Creswell & Plano-Clark, 2011). The design of the current study is correlational as the focus was on examining relationships between and among variables.

However, the researcher acknowledges that even though the research would be able to ascertain whether a relationship exists between dependent variables (adjustment and academic performance) and independent variables (mindfulness and self-consciousness), it would not be able to control the effect of confounding effect of extraneous variables.

The design of the study is cross-sectional as data used in the research was only collected once among first-year university students from a university of technology (TUT).

4.5 Data collection

The study intended to investigate the relationship between self-consciousness and mindfulness and student adjustment in institutions of higher learning within the South African context. Therefore, the researcher decided to sample students from different campuses of the Tshwane University of Technology (TUT) as study participants. This decision was informed by the fact that the researcher's relationship with the institution would make it easier for her to get permission to collect data at the respective campuses. The researcher is currently employed at Tshwane University of Technology, Ga-Rankuwa campus. Thus, the researcher obtained permission from the Tshwane University of Technology Research Ethics Board to collect data from the different campuses. However, due to time, proximity and accessibility constraints, the researcher decided to focus on two main campuses; namely the Pretoria West and Ga-Rankuwa campuses.

Initially, the researcher intended to send out 800 questionnaires for participants to complete on their own and return them at a later stage. However, the researcher later revisited the data collection method in order to ensure confidentiality and prevent students from discussing the questionnaire and giving similar answers, thus compromising the validity of the research findings. Data were collected by groups at the end of the life skills lectures; subject to student availability for approximately 40 minutes during the first semester in 2016.

After approaching first-year students during life skills classes, 314 questionnaires were handed out and completed by the students. Each participant was asked to complete the self-administered, self-report questionnaires. The materials were as self-explanatory as possible.

Even so, as a means of standardising and controlling the data collection process, the researcher ensured that the research assistants followed the same procedures as those prescribed by the researcher herself. This was achieved through thorough briefing and orientation of research assistants and field workers.

4.6 Population and sampling

A research population has all elements (individuals, objects and events) that meet the sample criteria for inclusion in a study (Burns & Grove, 1993).

Therefore, a population consists of all members of some defined group. For this particular study the population was made up of individuals who shared characteristics regarded by the researcher as relevant for the study (Gratton & Jones, 2010). Focusing specifically on individuals or groups to whom the results could be generalised, the population for this study consisted of all first-year university students registered at two campuses of one tertiary institution (Tshwane University of Technology).

A sample is some subset of a population – it is a portion of the population (Taylor, 2005). The sample of the current study is drawn from the Tshwane University of Technology registered first-year students.

4.6.1 Sampling method

Due to cost and time constraints, as well as factors relating to the scope of the current study, the non-probability, convenience sampling method was used. The researcher was not able to hand out questionnaires to all first-year students registered at the nine campuses of Tshwane University of Technology situated in different provinces in South Africa as initially planned. As stated earlier, the study was conducted among first-year students in two campuses in Gauteng and North West, South Africa. Specifically, the study was conducted among first-year students registered at Ga-Rankuwa campus in North West and Pretoria West campus in Gauteng. The sampling method used allowed for the selection and inclusion of available and willing research participants. Even so, the participants needed to meet the inclusion criteria as determined by the researcher.

4.6.1.1 The sampling criteria: Inclusion and exclusion criteria

Participants included in the sample were selected to meet specific criteria. The criteria were as follows:

- The study included participants who were first-time, first-year registered university students. Therefore, the study excluded students who were doing first year courses for the second time. These participants were excluded as the focus of the current study was on experiences of students who were experiencing university for the first time.

- The study included participants from the age of 18. The researcher decided to include participants from the age of 18 because this category falls within the ages by which most individuals register at university for the first time, which is between 18 and 25 years (Arnett, 1994). Also, the researcher decided to include participants aged 17, who were turning 18 during their first year of study; that is first-year students who were turning 18 during the course of 2016.

- The study did not exclude participants based on their gender or race. Therefore, the research participants could be of any sex and race. The researcher understood that sampling that allows for that broad cross-section of the population (that is all genders, different ages, different levels of academic performance, etc.) is considered reasonably representative (of that population) and unbiased (Gravetter & Forzano, 2012).

4.6.1.2 Sample size

The study population consisted of 314 participants. However, 24 participants were taken off as they did not meet the criteria (these students had re-registered for most first-year modules but were in their second year of study). As a result, the number of participants was brought down to 290. According to Tabachnic and Fidell (cited in Pallant, 2004) a sample of above 200 is considered a large sample. Hence, a sample of 290 participants for the current research study can be regarded as a sufficient sample size.

The researcher is aware that the sample size affects the interpretation, application and generalisation of the findings. Furthermore, the researcher is aware that one way of determining the sample size of a study is to refer to margins of error as well as alpha levels. Accordingly, "one method of determining sample size is to specify margins of error for the items that are regarded as most vital to the survey" (Cochran, 1977, p. 81). An acceptable margin of error for the current study was placed at 5%.

Secondly, Cochran's (1977) method also considers alpha levels. Using Cochran's method enabled the researcher to ascertain statistical significance of the results; that is, the effect on the population. An alpha level of below 0.05 is acceptable for most studies. Hence, the current study also considers an alpha level of below 0.05 as statistically significant.

4.6.1.3 Characteristics of the sample

This section outlines the characteristics of the sample of the study. The section also briefly reports on the distribution of the research participants in relation to demographic and other background information.

The biographical data, which makes up the sample characteristics was collected with the intention to describe the demographic variables of the sample and to assess any influence on the research findings. The aim was to evaluate the usefulness of this information for the contextual variables on constructs applicable to the study.

As stated earlier, 290 participants were selected for this study (n=290). Figure 4.1 illustrates that 81% (n= 240) of the participants were based in the Ga-Rankuwa campus and 19% (n= 50) of participants were based in the Pretoria West campus.
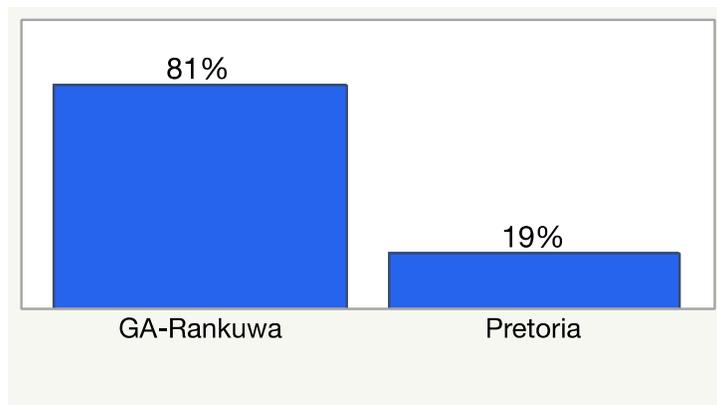
Figure 4.1 Campus composition of overall sample (n=290)

Participants at the Ga-Rankuwa campus were registered in the Faculty of Economic Management Sciences – 40 % of them were registered for the National Higher Certificate in Accountancy, 38% were registered for the National Diploma in Local Government Finance, and 3% were registered for the National Diploma in Financial Information Systems. Participants at the Pretoria West campus were registered in the Faculty of Management Sciences, and all of them were registered for the National Diploma for Credit Management.
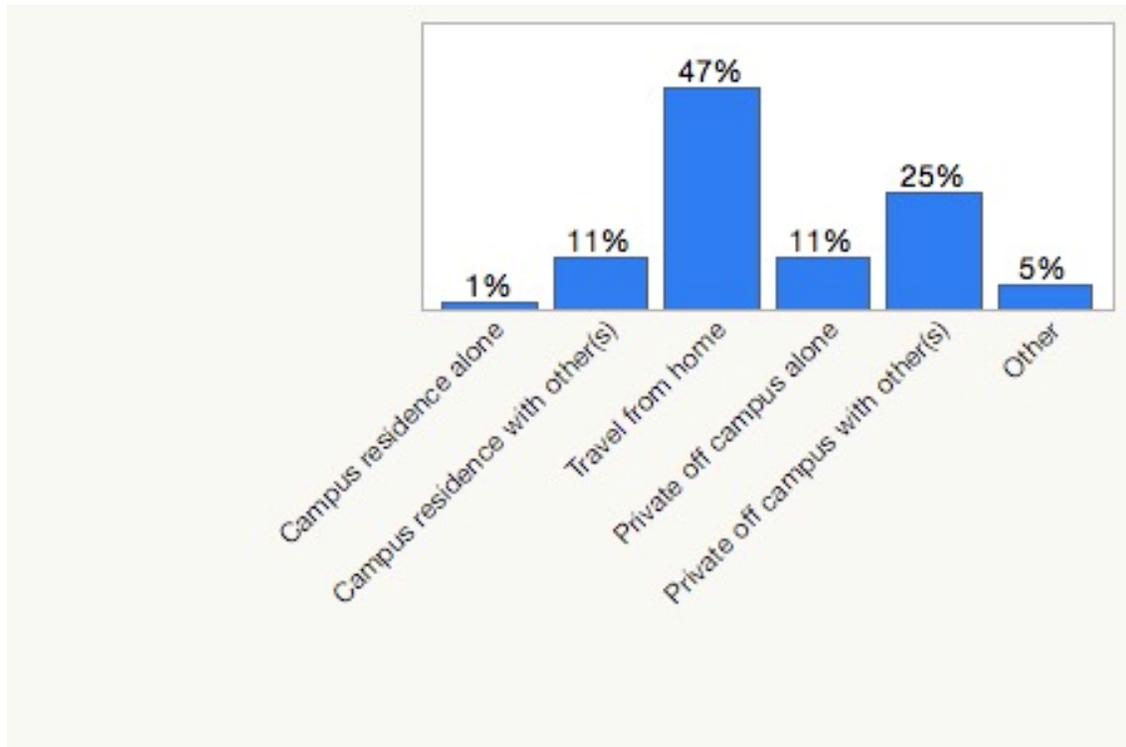
Figure 4.2 Accommodation arrangements of research participants

Figure 4.2 shows the accommodation arrangements of the students who participated in the study. The figure illustrates that most of the students were not accommodated on campuses (that is, 88%, n=255).

To sum it up, the majority of the students; that is 47% were travelling from home, 36% were in private accommodation outside the university. Of the latter, 11% stayed alone and 25% were sharing with other people. Twelve percent were accommodated in university residences, and the other 5% had alternative arrangements that were not specified.
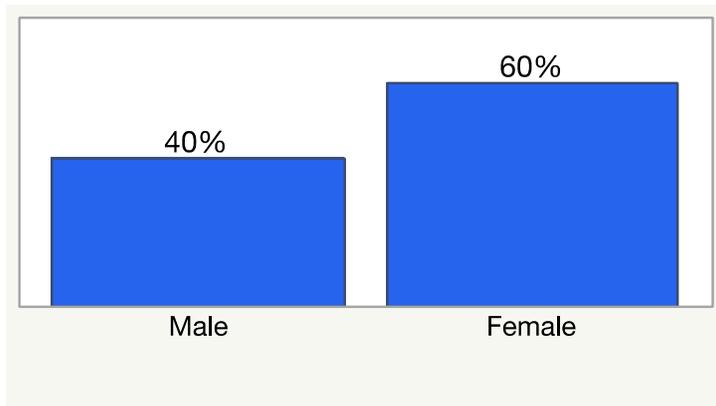
Figure 4.3 Gender composition of the sample

Figure 4.3 shows the gender composition of the study participants. The figure illustrates that the study sample was mostly made up of females (up 60% (n=174), while male participants made up to 40% (n= 116) of the sample.
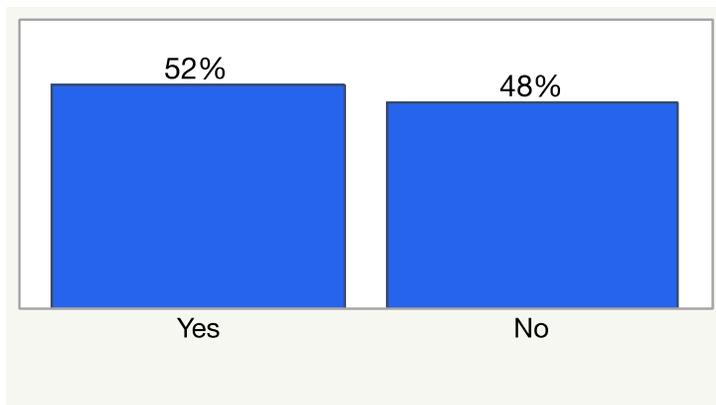
Figure 4.4 First choice of study

Figure 4.4 represents the composition of students registered for their first choice of academic qualification and those not registered for their first choice of academic qualification. Of all the students who participated in the study, 52% of the participants were registered for their first choice qualification, while 48% of the students were not registered for their first choice qualification.

This indicates that almost half of the participants were enrolled for courses that were not their first choice qualification.

Although it is out of the scope of the current study to ascertain the reasons why participants were not registered for their first choice of academic qualification, this finding may lead one to conclude that a large percentage of the research participants had initially wanted to register for and study towards a qualification other than the one they were registered for.
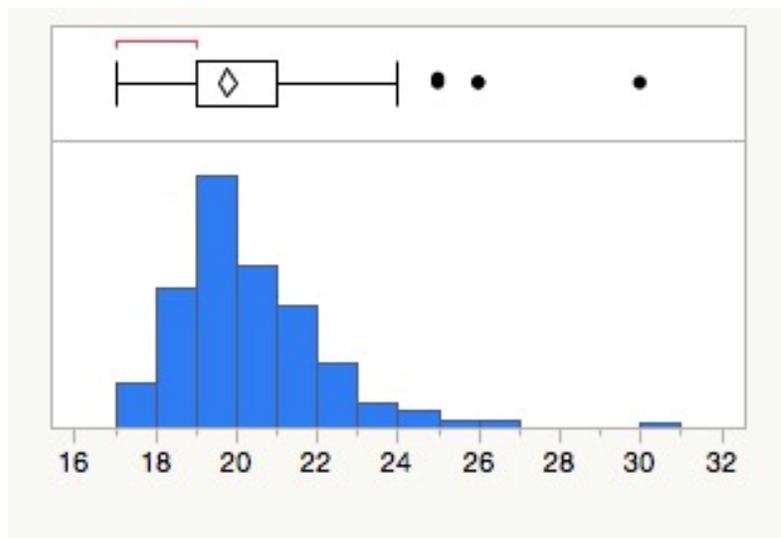
Figure 4.5 Age of students who participated in the study

Figure 4.5 shows that the ages of the research participants ranged from 17 to 30. The mean age of the study participants was 19.6. The sample was divided into two age categories: ages 17-20 and age 21 and above. As a result, 76% of the participants fell in the 17-20 category, while 24% of the participants fell in the 21 and above age category. Only 1% of the participants was above the age of 30. The ages of the participants are aligned with the ages of most first-year students, which are said to be between 18 and 24 (Arnett, 2000a).
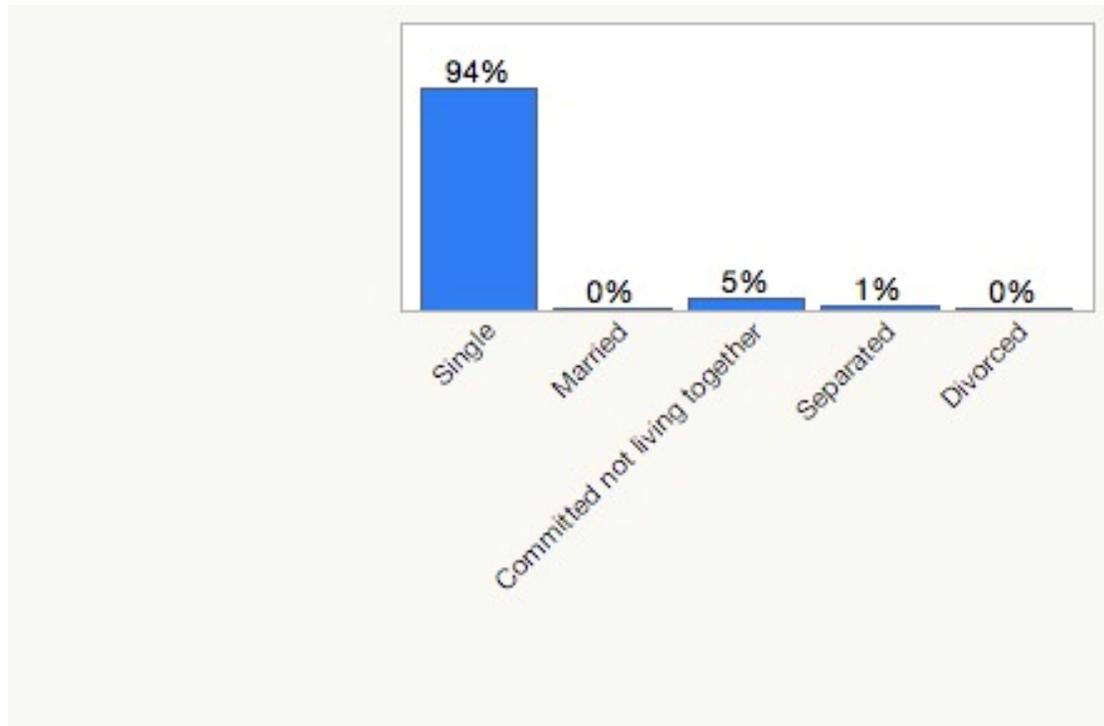
Figure 4.6 Relationship status of the participants

Figure 4.6 shows the relationship status of the research participants. It is evident from the above figure that most of the study participants were not in committed relationships – 94% of the participants were not involved at all, 1% had separated from their partners, while 5% of the participants were in committed relationships but not staying with their partners. None of the participants had been married or divorced. The relationship status of the participants could also be linked to the fairly young age of the participants, as the sample mean age was 19.6 years.

4.7 Research instruments

The researcher decided to use pre-existing questionnaires to evaluate/measure the constructs in the current study because pre-existing questionnaires are mostly well-validated and tested for reliability, and there is often normative data available as a baseline to compare the findings (Mathers, Fox & Hunn, 2009).

The questionnaires used in the study consisted of structured questions. The benefits of using structured questions include the possibility of reaching large samples, attaining a representative sample, and the standardisation of questions (all participants get the same questions). Using questionnaires also allows for flexibility in terms of choosing either face-to-face or online interviews (Kelley, Clark, Brown & Sitzia, 2003). The research instruments that were used in this study are:

- **A biographical data sheet** (to establish biographical information)
- **Adjustment disorder symptom checklist** (to identify adjustment disorder symptoms)
- **The Mindfulness Attention Awareness Scale** (to measure the construct of mindfulness)
- **The Self-Consciousness Scale** (to measure the construct of self-consciousness)
- **The Beck Depression Inventory** (to measure the construct of depression)
- **The Beck Anxiety Inventory** (to measure the construct of anxiety)
- **Student academic transcripts (**to measure academic performance)

4.7.1 Description of research instruments

In this section the researcher describes the seven instruments used to measure the different constructs of the study as well as their reliability and validity.

4.7.1.1 Biographical data sheet

The biographical data sheet used in the current study consisted of eight items. The information obtained included the participants' campus, age, gender, field of study, living arrangements, nationality, and relationship status, as well as whether the course registered for was their first choice of academic qualification or not.

Some questions required that participants provide the information, while some of the questions gave participants an option to either choose from the option provided or provide their own option (see appendix A).

4.7.1.2 Adjustment disorder checklist

The adjustment disorder checklist was used to measure the number of adjustment disorder symptoms as stipulated in the DSM-V (Saddock, Saddock & Ruiz, 2014). The adjustment disorder checklist is a 23-item checklist that consisted of questions that were to be answered in terms of either **yes** or **no**, which were scored 0 or 1 respectively. The checklist consisted of three sections, namely:

- Section A, which looks at the emotional/psychological symptoms
- Section B, which looks at the behavioural symptoms; and
- Section C, which looks at the duration and situational factors.

The adjustment disorder checklist was used in the study to measure the number of adjustment disorder symptoms prevalent in first-year students at the time the data were collected.

4.7.1.3 The Beck Depression Inventory

The Beck Depression Inventory is a 21-item self-report inventory that measures the severity of depression in adolescent and adult populations. The respondents indicate the level at which they have experienced the symptoms listed, and the responses are rated on a 4-point Likert scale, with responses from 0 (which indicates that the symptom has not at all been experienced) to 3 (which indicates that the symptom has been severely experienced). This measure has been used in studies involving psychiatric and non-psychiatric populations since the 1960s (Beck, Steer & Carbin, 1988).

The researcher chose the measure due to its "high internal consistency, high content validity, validity in differentiating between depressed and non-depressed subjects, sensitivity to change, and international propagation" (Richter, Werner, Heerlein, Kraus & Sauer, 1998, p. 160). Studies have demonstrated that the Beck Depression Inventory is a valid and reliable measure used across different populations and cultural groups (Beck, Steer & Brown, 1996).

Although this is not a diagnostic measure, research findings have demonstrated that the Beck Depression Inventory can discriminate subtypes of depression (Beck, Steer & Carbin, 1988).

More specific to the current study, there is strong support for the use of the Beck Depression Inventory in students in institutions of higher learning across different cultures (Al-Musawi, 2001).

The wording for item 19 in the measure was changed to make the language more appropriate for the South African context and therefore, easier for the respondents to understand – the word **pounds** was substituted with **kilograms,** which is used in the South African context.

4.7.1.4 The Beck Anxiety Inventory

The Beck Anxiety Inventory is a 21-item self-report instrument that is used to measure the severity of anxiety in adolescent and adult populations. The measure evaluates the somatic symptoms of anxiety such as nervousness, dizziness and an inability to relax. The respondents indicate how much they have been bothered by the symptoms listed, and the responses are rated on a 4-point Likert scale, with responses from 0 (which indicates that the symptom is not at all experienced) to 3 (which indicates that the symptom is severely experienced) (Julian, 2011).

This measure was chosen for its good psychometric properties, also evident in non-clinical populations (Creamer, Foran & Bell, 1995). The measure has been shown to have a high level of internal consistency, which makes it a good measure for state anxiety (Creamer et al., 1995; Fydrich, Dowdall & Chambless, 1992). There is also plenty of evidence that supports the reliability and validity of the measure (Osman, Kopper, Barrios, Osman & Wade, 1997).

4.7.1.5 The Mindfulness Attention and Awareness Scale

The Mindfulness Attention and Awareness Scale is a self-report measure of mindfulness that was developed by Brown and Ryan (2003) in response to the methodological limitations that became evident in the measurement of mindfulness, as well as the absence of well-validated measures of mindfulness at the time (MacKillop & Anderson, 2007). The measure was developed with the definition of mindfulness as awareness and attention to events/experiences in the present moment (Brown & Ryan, 2003).

This is a 15-item scale that measures the attentiveness and acceptance aspects of mindfulness (Bergomi, Tschacher & Kupper 2013). The measure was chosen for the current study because of its popularity in measuring mindfulness, and also demonstrates "promising psychometric properties" (Van Dam, Earleywine & Borders, 2010, p. 805).

The measure has "the longest empirical track record as a valid measure of the trait mindfulness" – also, "most of what is understood about the trait mindfulness comes from administering the Mindfulness Attention and Awareness Scale" (Black, Sussman, Johnson & Milam, 2012, p. 42). Research findings have also demonstrated that the Mindfulness Attention and Awareness Scale is a valid measure of mindfulness used even in populations of individuals less experienced in meditation (MacKillop & Anderson, 2007). As Bergomi Tschacher and Kupper (2013, p. 195) put it, the Mindfulness Attention and Awareness Scale "allows a concise assessment of mindfulness in populations without previous meditation experience." The validity of the measure has been proven to be consistent across different cultures, and also for students in institutions of higher learning (Black et al., 2012).

4.7.1.6 The Self-Consciousness Scale

The Self-Consciousness Scale is a self-report measure that was developed by Fenigstein et al. (1975) that is used to measure self-consciousness. This is a 23-item scale that uses a 5-point rating, which starts from 0 (extremely uncharacteristic) to 4, (extremely characteristic). The measure has three sub-scales that measure private self-consciousness, public self-consciousness and social anxiety. Scheier and Carver (1985) explain social anxiety, which forms the third sub-scale of the measure as a "particular kind of reaction to focusing on the public self; that is social anxiety would seem to derive (at least in part) from public self-consciousness, in that the subjective experiences of social anxiety presupposes a focus on the public self" (p. 687).

This measure was later revised by Scheier and Carver (1985) and was changed to a 4-point rating, which starts from 0 (not at all like me) to 3 (a lot like me). The revised version was necessitated by an observation of a difficulty in understanding the language used in the original version (that is, the self-consciousness scale that was developed by Feningstein et al., 1975) experienced by populations other than college students (Scheier & Carver, 1985).

The revised measure still consists of three sub-scales, which are private self-consciousness, public-self-consciousness and social anxiety.

Scheier and Carver (1985) found that the psychometric properties of the revised scale compares favourably with the scale developed by Feningstein et al. (1975). They also found that the scale could be used in the general population (not only in populations in institutions of higher learning).

This measure has also been found to have acceptable levels of reliability (Alanazi, 2001; Scheier & Carver, 1985), construct validity (Harrington & Loffredo, 2007) and continues to be adapted for research purposes for different populations (that is, different ages and cultures) (DaSilveira, DaSouza, & Gomes, 2015).

The current study was conducted using Scheier and Carver's (1985) Self-Consciousness Scale revised (SCS-R) version.

4.7.1.7 Academic transcripts

As indicated earlier, the study considered the academic performance of the research participants. Therefore, academic transcripts of students who participated in the study formed part of the instruments that were used to collect the data. These were provided by the Tshwane University of Technology, and the results obtained by the research participants were used to measure academic performance.

4.7.2 Validity and reliability of the research instruments

The following section describes the reliability of the instruments used in the current study in general. In the first section, information is provided on how the research instruments performed in terms of sufficiently measuring the underlying behaviours and characteristics. Reference is also made to the reliability and validity of the instruments.

The section discusses only construct reliability (internal consistency), which can be explicitly tested with item analysis using a Cronbach Alpha coefficient. Cronbach's Alpha coefficients were used to assess the internal consistency reliability of the constructs measured.

A reliable Cronbach Alpha coefficient value confirms that the individual items of a dimension measured the same dimension or concept/s consistently. The section provides information on all the measures used in the study, except for the measure used to measure adjustment disorders symptoms – the reason for this is because a checklist was used.

Table 4.1 *The internal consistency of the constructs measured by the research instruments*

Construct	Items	No. of Items	Items removed	Cronbach Alpha
1. Mindfulness	1-15	15	None	0.83
2. Self-consciousness a. Private self-consciousness	1, 4, 6,8,12, 14,17,19,21	9	No. 8	0.68
b. Public self-consciousness	2, 5, 10, 13,16,18,20	6	None	0.67
c. Social anxiety	3, 7, 9,11,15,22	5	No. 11	0.70
3. Depression	1-21	21	None	0.82
4. Anxiety	1-21	21	None	0.88

Table 4.1 illustrates that the Cronbach's Alpha coefficients for the constructs measured by the standardised instruments were between 0.6 and 0.88. The Cronbach's Alpha coefficients for mindfulness, depression and anxiety were all high at 0.83, 0.82 and 0.88 respectively.

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As indicated in Table 4.1, two items were removed in the self-consciousness scale – item 8 in the private self-consciousness scale and item 11 in the social anxiety scale. Cronbach's Alpha coefficients for self-consciousness dimensions of private self-consciousness, public self-consciousness and social anxiety were all moderate – between 0.67 and 0.70.

As indicated in Table 4.1 Cronbach's Alpha coefficients for the measures used in the study were calculated at above 0.60, providing strong evidence for their reliability.

4.8 Data analysis

This section explains the data analysis process as well as statistical analysis techniques that were employed. The statistical procedures followed in this study were chosen for their applicability to this study, which is exploratory in nature. Data were analysed using descriptive statistical analysis and inferential statistics.

- **Scoring**

Self-consciousness Scale
Scoring was done as suggested by Scheier & Carver (2013). Firstly, items 8 and 11 were reversed. The private self-consciousness sub-scale was scored by the sum of items 1, 4, 6,12,14,17, 19 and 21. The public self-consciousness sub-scale was scored by the sum of items 2,5,10,13,16,18 and 20. Social anxiety was scored by the sum of items 3,7,9,11,15 and 22.

Mindfulness Attention Awareness Scale
Scoring was done as suggested by Brown and Ryan (2003). This was done by computing a mean of the 15 items, where a higher score reflected a higher level of dispositional mindfulness.

<u>Beck Depression Inventory</u>

Scoring for the BDI was done by adding each of the 21 items. The highest total number for the whole test was 63. The results were interpreted as follows: 1-10 (normal), 11-16 (mild), 17-20 (borderline), 21-30 (moderate), 31-40 (severe), 40 and above (extreme).

<u>Beck Anxiety Inventory</u>

Scoring for the BAI was done by adding each of the 21 items. The highest total for the whole test was 63. The results were interpreted as follows: 0-7 (minimal level of anxiety), 8-15 (mild level of anxiety), 16-25 (moderate level of anxiety) and 26-63 (severe anxiety).

<u>Adjustment disorder checklist</u>

The **no** responses were measured as **0** and the **yes** responses were measured as **1.** The total was the sum of all items. The scoring was done by calculating the average of the total score.

- **Descriptive statistics**

Descriptive statistics in a study serve to measure central tendency, variability and association between variables. Thus, descriptive statistical analysis was used in the study to calculate means, standard deviation, and frequency and percentages of both the sample and the survey responses and allowed for the findings to be summarised and presented both numerically and visually (for example, tables and graphs).

- **Inferential statistics**

Inferential analysis allowed the researcher to reflect on the sample characteristics and to generalise the findings to the general population – that is, applying the findings beyond the data collected in the study (to the wider population). Inferential statistics in a study serve to make inferences from the observation and analyses of the sample and also to test the hypothesis (Creswell, 2014). In the current study inferential analysis was done by means of three statistical procedures – that is correlational analysis, regression analysis and mediation analysis.

Correlation analysis allows the researcher to measure and determine whether the relationship exists or not – it also serves to explore the relationship (that is, co-variation) between variables, and to determine if there is a link between variables under study for the sample collected. This method also allows for the exploration of the possible relationship, but not the determination of causation.

Regression analysis was used to ascertain the linear relationship between variables in order to indicate either a positive or a negative relationship. Regression analysis allows for the estimation of relationships among variables – it allows for the modeling and analysis of several variables. In the current study, regression analysis allowed the researcher to analyse the value of variables to compare and determine which independent variable has the most impact on the dependent variables.

The last step was structural equation modeling, which was used to ascertain mediating effects of variables.

The findings are reported in detail in Chapter five.

4.9 Ethical considerations

Ethics are considered essential in psychological research. After about 15 years of discussions, the American Psychological Association (APA) published the first code of conduct document in 1953 (Goodwin, 2008). This document speaks not only to the professional practice in psychology, but also dedicates a section to ethical standards in research – that is, ethics are seen as crucial in scientific investigations that involve human behaviour (Baxter, Hughes & Tight, 2001). The purpose of ethics in research therefore, is to protect the welfare of participants (Wassennar, 2006).

The APA code of conduct emphasises five key ethical principles that should be applied in research, namely:
- Beneficence and non-maleficience, which emphasise that research should be conducted with the intention to do good

- Fidelity and responsibility, which emphasise that the researcher should adhere to professional behaviour at all times
- Integrity, which emphasises that researchers should practice honesty in all aspects of research
- Justice, which emphasises fairness in the treatment of all research participants; and
- Respect for people's rights and dignity, which emphasises that the rights of all participants should be protected throughout the research process (American Psychological Association, 2002).

In complying with the above principles, the following ethical considerations were adhered to during the current study:

- **Informed consent**

Gravetter and Forzano (2012) explain that obtaining informed consent entails giving human participants the full information about the research, as well as their roles in the research before they can volunteer to participate. This is a crucial step as it allows research participants to take decisions, based on the information provided.

Thus, for the current study the researcher provided all participants with the relevant information about the study and the reasons for conducting the study. This was done in order for participants to make an informed decision on whether to participate or not – the researcher had a verbal discussion with the participants about the study, and also provided such information in a cover letter given to the participants before the study commenced. The researcher also explained to the participants that the study was conducted as a requirement for her doctoral degree that she is enrolled for at the University of South Africa (UNISA); and was not conducted for the institution that they were registered at; that is Tshwane University of Technology (TUT). All the steps that were going to be taken during the course of the study were explained in detail to participants prior to agreeing to participate. All participants were made aware of the need to collect their academic transcripts for the purpose of the current study.

Informed consent was consequently obtained from all research participants in written form.

- **Voluntary participation**

All individuals who were approached to take part in the study were informed that participation was voluntary. As a result, data were collected only among individuals who volunteered to take part.

It was stated in the forms that were handed out to individuals approached that participation was voluntary – and no coercion or inducement was used in obtaining consent.

- **Confidentiality**

The nature of personal and at times sensitive information that is often provided by research participants makes confidentiality an important ethical consideration (Haslam & McGarty, 2003).

As stated earlier, the nature of the current study required that participants be identified as the researcher needed to make follow-ups and acquire participants' academic transcripts from the university, for measuring academic performance. This step also involved obtaining participants' informed consent. The researcher ensured that all research assistants signed a non-disclosure agreement, and that all information provided was handled with the strictest confidentiality.

- **No Harm**

The researcher was aware of the potential emotional/psychological impact on the participants that might arise from the research – as it was conceived that certain items on the research instruments may evoke uneasiness or discomfort in participants, making professional therapeutic intervention necessary. Therefore, provision was made for contact, feedback and/or referral.

Thus, participants were made aware of psychological services offered by Tshwane University of Technology, and were advised to either obtain a formal referral from the researcher or personally contact the Student Development and Support Department (where psychological services are offered free of charge for all registered students at the university), should they experience some discomfort and uneasiness during the completion of the questionnaires as stated above.

No participants alerted the researcher of such concerns during the completion of the questionnaires; and all participants were informed to personally contact the department, should they experience any discomforts or uneasiness after the completion of the questionnaires. The researcher is not aware of any cases that were reported.

4.10 Conclusion

The study aimed to investigate the impact of mindfulness and self-consciousness on adjustment and academic performance in first-year students in institutions of higher learning in South Africa. This chapter discussed the research methodology adopted in conducting the study – which is a quantitative survey method, the type of questions employed in collecting the data, as well as the data analysis method employed.

Chapter five discusses the analysis of the results and the findings thereof.

CHAPTER FIVE

DATA ANALYSIS AND THE FINDINGS

5.1 Introduction

The chapter describes the findings obtained from analysing the data. The data were collected and analysed in relation to the research questions outlined in the first chapter. As stated in the first chapter, the aim of the study was to investigate the relationship between self-consciousness, mindfulness, adjustment and academic performance in first-year students in institutions of higher learning. The results from descriptive statistics, reliability analysis as well as statistical tests employed during the analysis of the data will be analysed. The set aims, objectives and hypotheses for the study are followed closely. As indicated in chapter four, the data were analysed in three steps – namely correlations analysis, regression analysis and mediation analysis. The chapter discusses the findings for each step.

5.2 Response rate

Three hundred and fifty questionnaires were sent out – 36 of these were not returned; giving the study a 90% response rate. However, 24 questionnaires were incomplete or there was missing information, with most sections left blank; leaving about 83% of the questionnaires useable. Therefore, the findings were drawn from the 290 remaining, useable questionnaires.

5.3 Descriptive statistics

Descriptive statistical analysis was used to account for frequencies and percentages obtained in the responses to questions. This section discusses the score distribution of research participants, based on the instruments used in the collection of data. Below is a report on simple descriptive statistics for the study's variables such as means and standard deviations for each of the instruments used in the study.

5.3.1 Mindfulness

Mindfulness as an independent variable was measured by the Mindfulness Attention and Awareness Scale (MAAS).
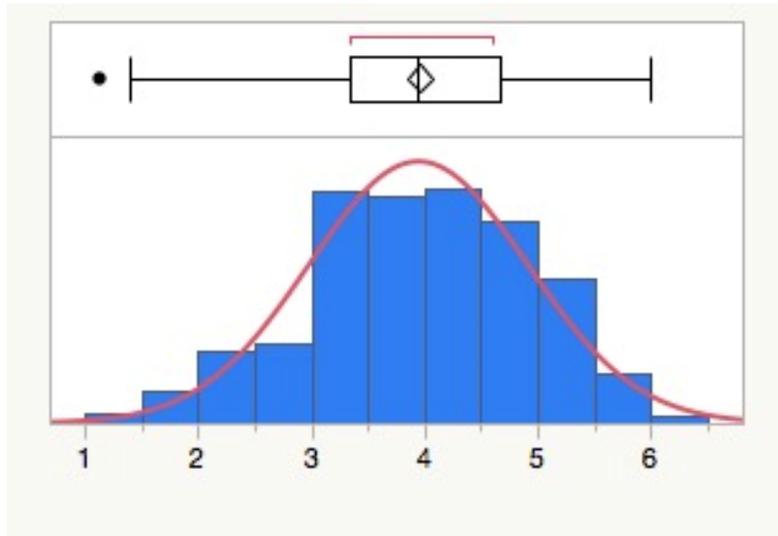
Figure 5.1 Respondents' score distribution on the MAAS

Figure 5.1 presents the overall score distribution on the MAAS for all participants in the study. The figure indicates that most of the participants scored between 3 and 5. The mean score was 3.94 and the standard deviation 0.96. The results as reflected in figure 5.1 show that most of the respondents scored in the middle range of the MAAS, indicating that most respondents scored moderate to higher scores in dispositional mindfulness.

5.3.2 Self-consciousness

Self-consciousness as an independent variable was measured by the Self-Consciousness Scale Revised (SCS-R). The results of the SCS-R are discussed in relation to the three sub-scales of self-consciousness: **private self-consciousness, public self-consciousness** and **social anxiety.**
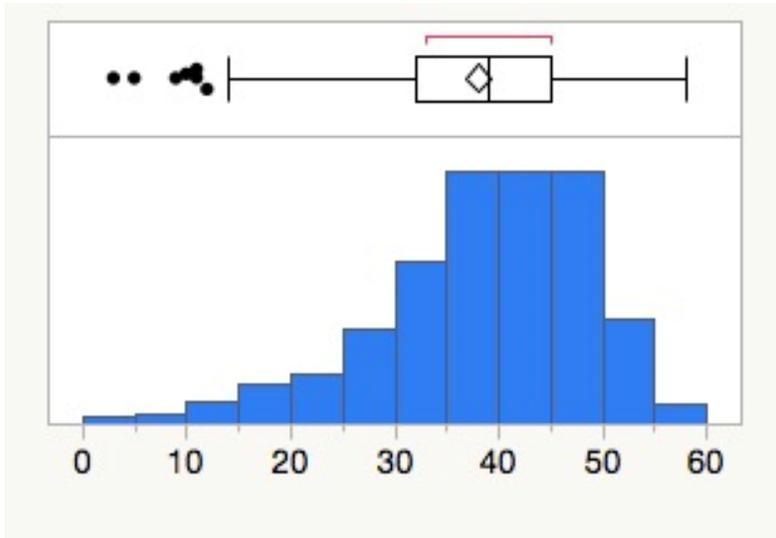
Figure 5.2 Respondents' score distribution on the SCS-R

Figure 5.2 presents the overall score distribution on the SCS-R. The results show that most of the participants scored higher on the self-consciousness scale, while the rest of the participants scored   in the 25 and 55 range. For this measure the mean score was 38.05 and the standard deviation 10.03. The result indicates that more participants experienced higher levels of self-consciousness; with most of them feeling anxious speaking in front of a group of people (63.92%).

5.3.2.1 Private self-consciousness
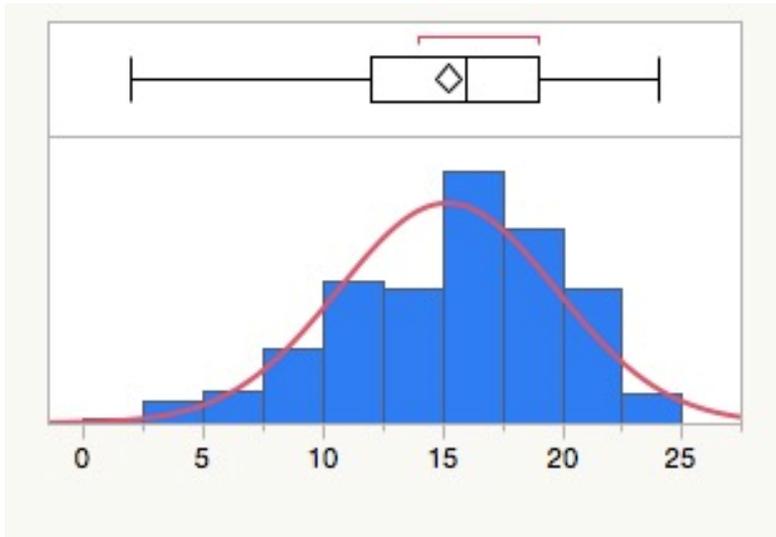
Figure 5.3 Respondents' score distribution on the private self-consciousness scale

Figure 5.3 presents the overall score distribution on the SCS-R- private sub-scale, with the results showing that the scores were more spread for the private self-consciousness scale; more scores were between 10 and 22.5. For this sub-scale the mean score was 15.23 and the standard deviation 4.54.

5.3.2.2 Public self-consciousness
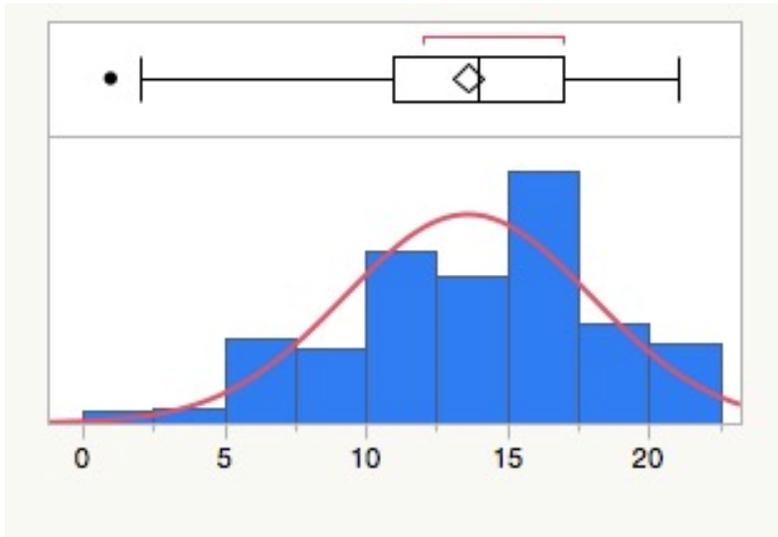
Figure 5.4 Respondents' score distribution on the public self-consciousness scale

Figure 5.4 presents the overall score distribution on the SCS-R public sub-scale. The results show that more scores were between 5 and 20, with most scores between 10 and 17.5. For this sub-scale the mean score was 13.61 and the standard deviation 4.36.

5.3.2.3 Social anxiety
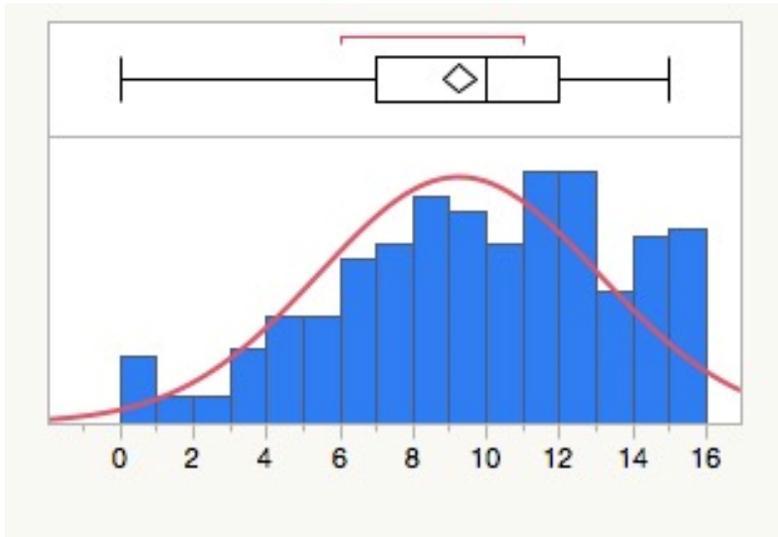
Figure 5.5 Respondents' score distribution on the social anxiety sub-scale

Figure 5.5 presents the overall score distribution on the SCS-R- social anxiety sub-scale. The results show that scores ranged between 0 and 15 – with more responses in the middle to higher scores. For this sub-scale the mean score was 9.27 and the standard deviation 3.81.

5.3.3 Adjustment

Adjustment as a dependent variable was measured in three ways, namely   through the adjustment symptom checklist based on the DSM-V constructed by the researcher, the Beck Depression Inventory (BDI) and the Beck Anxiety Inventory (BAI).

5.3.3.1 Adjustment disorder symptoms

Table 5.1 Respondents' mean and standard deviation scores on the adjustment checklist sub-sections

Subscales on the adjustment disorder symptom checklist	Mean scores	Standard deviation scores
Section A: The emotional/psychological symptoms	3.69	2.36
Section B: The behavioural symptoms	0.49	0.76
Section C: The duration and situational factors	1.00	0.86

Table 5.1 presents the mean and standard deviation scores for the separate sections of the adjustment symptom checklist. The mean for the total adjustment disorder checklist was 5.20 and the standard deviation 3.18. The results showed that there were more "yes" responses for the emotional/psychological symptoms (section A of the checklist) than for the behavioural and situational factors.

The most prevalent symptoms reported by respondents included feeling highly nervous (59.31% of the students), being excessively worried (55.75% of the students), feeling desperate (55.75%), and experiencing difficulty concentrating (44.60%). The respondents also indicated that these feelings were more excessive than what they expected (49.30%).

5.3.3.2 Depression
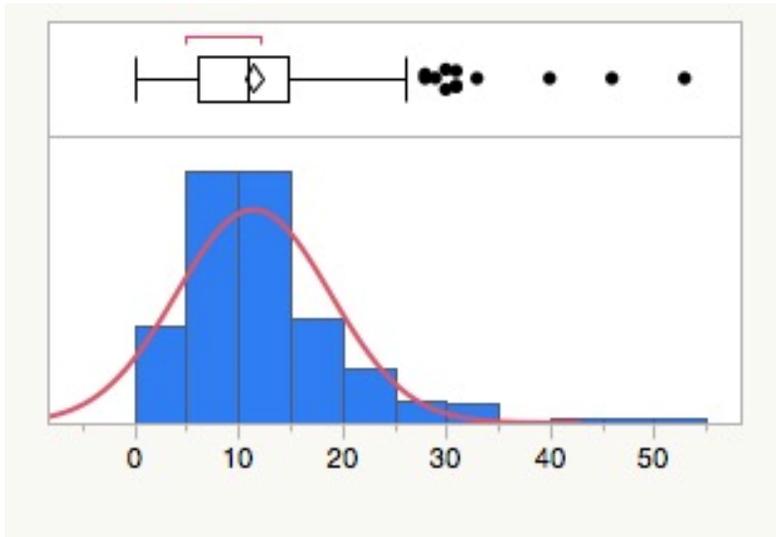
Figure 5.6 Respondents' score distribution on the Beck Depression Inventory

Figure 5.6 shows the overall score distribution on the Beck Depression Inventory – the figure shows that scores range between 0 and 55. More respondents scored between 0 and 35, with a larger number of respondents scoring between 5 and 15. For this measure the mean score was 11.47 and the standard deviation 7.41. This indicates that most respondents experienced normal to mild levels of depression; a much smaller number of respondents experienced borderline to severe symptoms of depression.

5.3.3.3 Anxiety
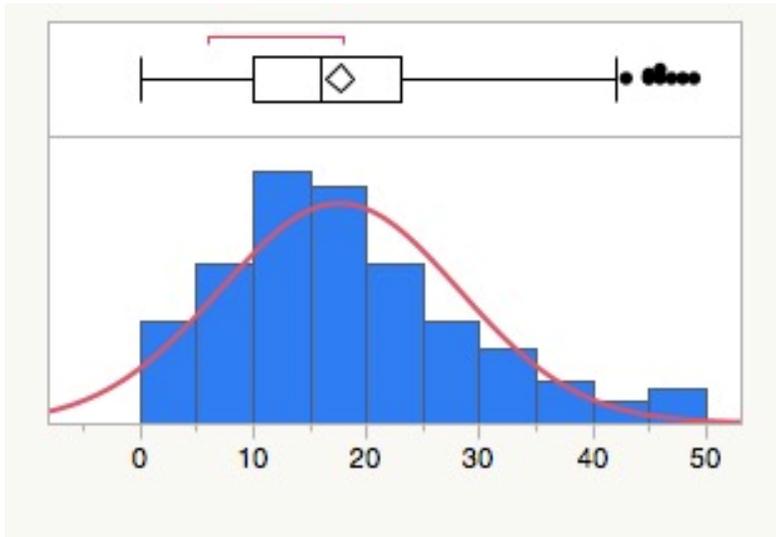
Figure 5.7 Respondents' score distribution on the Beck Anxiety Inventory

Figure 5.7 presents the overall score distribution on the Beck Anxiety Inventory – the figure shows that the scores range between 0 and 50. It is clear from the above that although higher scores were obtained in this sub-scale than for depression, more respondents also scored in the lower ranges. The mean and standard deviation were higher than they were for depression – 17.70 and 10.50 respectively.

These scores show that most of the students experienced lower levels of anxiety – however, the results in figure 5.5 indicate that unlike for depression, more respondents seem to be experiencing higher levels of anxiety. About 20.56% of the respondents reported feeling nervous and 30.63% of the respondents reported that they feared for the worst.

5.3.4 Student marks
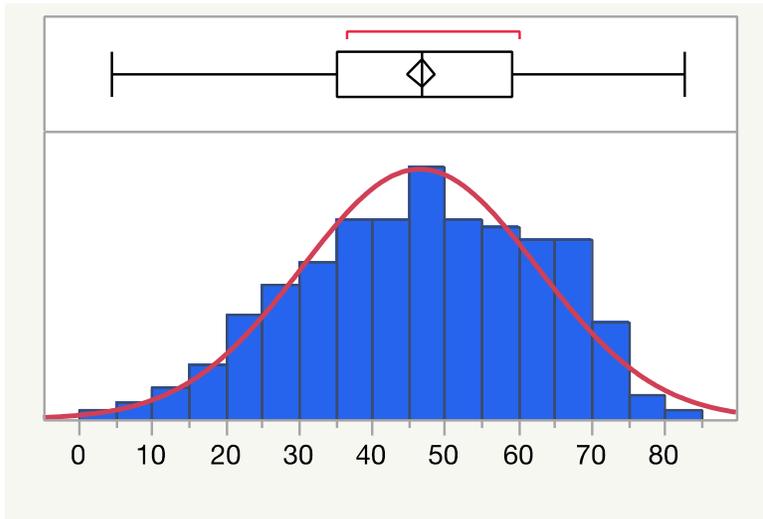
Figure 5.8 Mean of marks

Figure 5.8 shows the mean of marks for respondents. As indicated in the table the mean was 46.6 and the standard deviation 16.1.

5.4 Research findings

In answering the research questions the section will discuss the correlations, regression and mediation results.
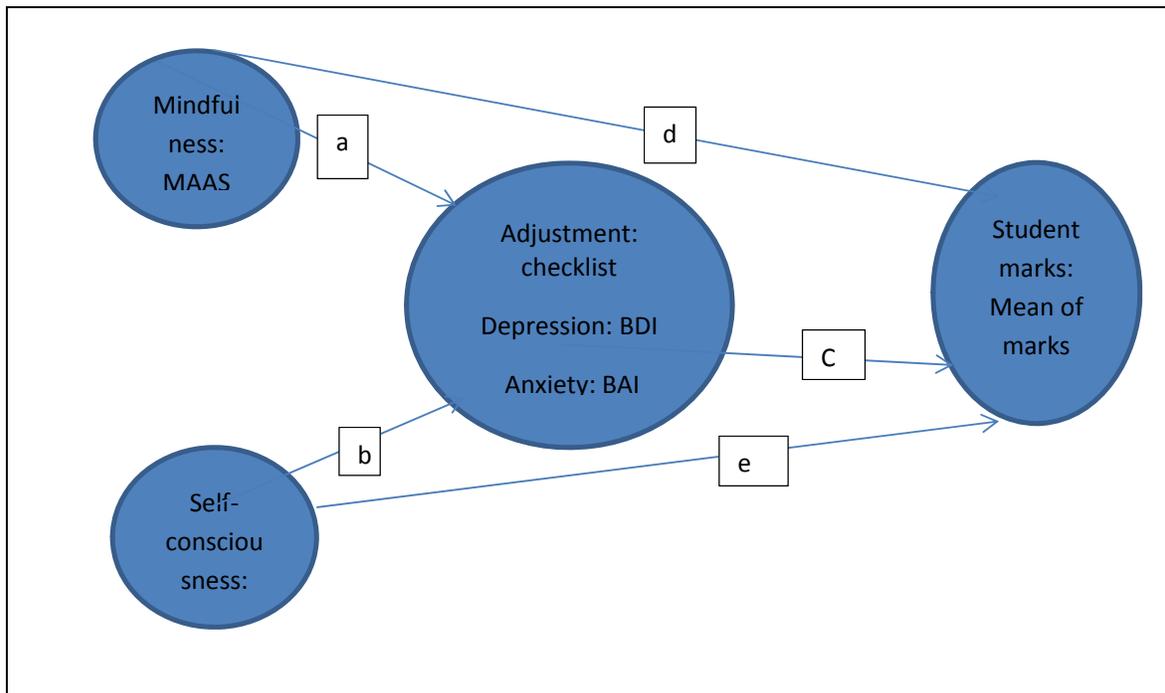
Figure 5.9 The dependent and independent variables of the study

Figure 5.9 shows the dependent and independent variables of the study. The findings are presented in relation to the relationships as illustrated in the above figure.

In order to achieve this, the section will be divided into three parts. Part one focuses on step one, the correlation findings. The discussion focuses on how independent variables correlated with dependent variables of the study. The discussion and presentation of the correlation findings was aimed at establishing the degree to which self-awareness in relation to mindfulness and self-consciousness contributes to students' adjustments (adjustment disorder symptoms, level of depression and level of anxiety) and subsequently to academic performance (that is satisfactory grades average > 50% or dissatisfactory grade average < 50 %).

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Part two focuses on step two, which is the results of the regression analysis and discusses which independent variable (that is, mindfulness and self-consciousness) impacted more on student adjustment (that is, adjustment disorder symptoms, depression and anxiety) and academic performance (mean of students' marks).

Part three focuses on step three, which is the mediation results and discusses the findings in relation to the mediating effects of independent variables (mindfulness and self-consciousness) on the dependent variables (adjustment, depression, anxiety, and academic performance).

5.4.1 PART ONE: Correlations

Research question one

- Do first-year students' level of self-awareness in relation to mindfulness and self-consciousness affect their levels of anxiety and depression and experienced adjustment disorder symptoms?

5.4.1.1 Mindfulness and adjustment variables correlations

As stated in chapter four, mindfulness as an independent variable was measured using the international and widely-used Mindfulness Attention Awareness Scale (MAAS) developed by Brown and Ryan (2003). Tables 5.2 present the results of mindfulness correlations and adjustment variables respectively.

- **Mindfulness and Adjustment**

Table 5.2 Pearson correlations: Mindfulness and adjustment variables

Variable	Variable	Correlation	Significance level
Mindfulness	Depression	-0.41	<0.0001
Mindfulness	Anxiety	-0.35	<0.0001
Mindfulness	Adjustment section A	-0.32	<0.0001
Mindfulness	Adjustment section B	-0.32	<0.0001
Mindfulness	Adjustment section C	-0.15	0.0073
Mindfulness	Total Adjustment (A+B+C)	-0.40	<.0001

Table 5.2 shows the Pearson correlation coefficients, which are all significant at levels below 0.01 for the scores of respondents on the MAAS, BDI, DAI and adjustment disorder checklist. As expected, the results indicated a negative correlation between mindfulness and the adjustment variables. The table indicates a negative moderate to strong correlation between mindfulness and depression (r= -0.41), mindfulness and anxiety (r= -0.35), as well as mindfulness and adjustment disorder symptoms (r= -0.40). More specifically, the results also showed a negative moderate correlation between mindfulness and the emotional and psychological adjustment symptoms (r= -0.32) as well as the behavioural symptoms (r= -0.32) (sections A and B on the adjustment checklist) – however the correlation was found to be weaker for the situational factors on the checklist (r= -0.15). Therefore the results indicated that there was a significant negative correlation between mindfulness, adjustment disorder symptoms, depression and anxiety. The findings also indicated that the higher the level of mindfulness the lower the levels of depression and anxiety and therefore, the fewer the adjustment disorder symptoms.

5.4.1.2 Self-consciousness and adjustment variables correlations

As stated in chapter four, self-consciousness as an independent variable was measured using the Self-consciousness Scale-Revised by Scheier and Carver (1985). Tables 5.3 and 5.4 present the results of self-consciousness correlations for the study. The following are the results of the analysis of self-consciousness and the adjustment variables – adjustment disorder symptoms, depression and anxiety. The results reflect self-consciousness sub-scales of private self-consciousness, public self-consciousness and social anxiety.

- **Self-consciousness and adjustment**

The following section reports only on significant findings.

Table 5.3 Pearson correlations: Self-consciousness and adjustment variables

Variable	Variable	Correlation	Significance level
Private self-consciousness	Adjustment disorder checklist: Section A	0.1584	0.0066
Private self-consciousness	BAI: Anxiety	0.1287	0.0276
Public self-consciousness	Adjustment disorder checklist: Section A	0.1533	0.0087
Public self-consciousness	BAI: Anxiety	0.1396	0.0170
Public self-consciousness	BDI: Depression	0.1792	0.0022
Social anxiety	Adjustment disorder checklist: Section A	0.2097	0.0003
Social anxiety	BAI: Anxiety	0.1612	0.0058
Social anxiety	BDI: Depression	0.2022	0.0005

Table 5.3 shows the significant positive correlations between self-consciousness sub-scales and sub-sections of the adjustment disorder symptom checklist, with significant Pearson correlation coefficients of below 0.05. The results for the private self-consciousness sub-scales showed   a positive correlation with the BAI (p= 0.0276), and Adjustment symptom checklist (p= 0.0066); specifically section **A** of the checklist, which includes emotional/psychological symptoms. Similar results were obtained for the public self-consciousness sub-scale, showing a positive correlation for the BAI (p= 0.0170), the BDI (p= 0.0170) and section A of the adjustment symptom checklist (p= 0.0087). For the social anxiety sub-scale the Pearson correlation coefficient of below 0.05 level was evident for the BAI (0.0058), BDI (0.0005) and section **A** of the adjustment disorder checklist (p=0.0003).The analysis   indicates that significant positive correlations were only found between self-consciousness sub-scales (private, public and social anxiety) and section **A** of the adjustment disorder checklist (emotional/psychological symptoms). The findings also indicate that the higher the levels of private self-consciousness the higher the levels of anxiety and adjustment disorder symptoms. Similarly, higher levels of public self-consciousness and social anxiety were associated with higher levels of depression, anxiety and adjustment disorder symptoms.

Table 5.4 Pearson correlations: Total self-consciousness and total adjustment variables

Variable	Variable	Correlation	Significance level
Self-consciousness	BDI: Depression	0.1442	0.0137
Self-consciousness	BAI: Anxiety	0.1831	0.0016
Self-consciousness	Total Adjustment (section A+B+C)	0.1651	0.0046

Table 5.4 shows the results of the total self-consciousness scale (combined private, public and social anxiety sub-scales), total adjustment disorder symptom checklist (combined section A, B and C), BDI and BAI.

The results indicated a positive correlation with Pearson correlation coefficients, all significant at below 0.05 for the total self-consciousness and adjustment variable. The positive correlation was found to exist between the total self-consciousness and BDI scores (r=0.1442), total self-consciousness and BAI (r= 0.1831), as well as the total self-consciousness and total Adjustment symptom checklist (r=0.1651). These results show a strong correlation between total self-consciousness and anxiety; followed by depression and adjustment disorder symptoms. The findings show a statistically significant positive correlation between self-consciousness and adjustment variables. The findings also indicate higher levels of self-consciousness that can be associated with higher levels of depression, anxiety and adjustment disorder symptoms in students.

Research question two

- Do adjustment variables have an impact on the academic performance of first-year students?

This section reports on the significant correlations between adjustment variables and academic performance. Table 5.5 presents significant results in relation to the correlations between adjustment variables, while table 5.6 presents significant results in relation to the correlations between adjustment variables and the mean of student marks.

Table 5.5 The correlation for the scores of respondents on the BDI, BAI and adjustment disorder checklist

Variable	By variable	Correlation	Significance level
BDI: Depression	Anxiety	0.46	<0.0001
BDI: Depression	Adjustment: Section A	0.49	< 0.0001
BDI: Depression	Adjustment: Section B	0.31	< 0.0001
BDI: Depression	Adjustment: Section C	0.34	< 0.0001
BAI: Anxiety	Adjustment: Section A	0.52	< 0.0001
BAI: Anxiety	Adjustment: Section B	0.20	< 0.0001
BDI: Anxiety	Adjustment: Section C	0.32	< 0.0001

Table 5.5 shows the correlations between adjustment variables. As expected, the results show that all adjustment variables are positively correlated. The resulting Pearson coefficients for the scores in relation to BDI, BAI and the adjustment disorder symptom checklist all show a significant level of below 0.05. Based on these results, strong correlations were found to exist between the anxiety and emotional/psychological symptoms of adjustment disorder (r= 0.52), the depression and emotional psychological symptoms of adjustment disorder (r= 0.49), as well as depression (BDI) and anxiety (BAI) (r= 0.46). The results in the table show a moderate correlation between depression and situational factors of adjustment disorder (r= 0.34), anxiety and the situational factors of adjustment disorder (r= 0.32), as well as depression and behavioural symptoms of adjustment disorder (r= 0.31). The weakest correlation was found to exist between anxiety and the behavioural symptoms of adjustment disorder (r= 0.20). No significant correlation was found to exist between depression and the situational factors of adjustment disorder.

5.4.1.3 Adjustment variables and academic performance correlations

The results of the correlation analysis for academic performance enabled the researcher to note the correlation between adjustment variables and academic performance.

Table 5.6 Correlation for the scores in relation to adjustment disorder checklist and the mean of student marks

Variable	By variable	Correlation	Significance level
Mean of Marks	Adjustment disorder symptom checklist: Section A	-0.13	0.0348
Mean of Marks	Adjustment disorder symptom checklist: Section B	-0.15	0.0139
Mean of marks	Total adjustment disorder symptom checklist (A+B+C)	-0.15	0.0106

Table 5.6 shows the correlation results of the adjustment variables (adjustment disorder symptoms checklist, BDI and BAI) and mean of marks. As indicated, the results revealed no significant correlation between mean of marks and depression, mean of marks and anxiety, as well as mean of marks and section **C** of the adjustment disorder symptom checklist. However, the results show a negative correlation between the mean of students' marks and the adjustment disorder symptom checklist; specifically sections **A** and **B** of the checklist. The results presented in the table indicate that academic performance significantly correlates with adjustment disorder symptoms and more specifically, the emotional/psychological adjustment disorders (r= -0.13) with a p value of 0.0348 and behavioural symptoms (r=-0.15) with p value of 0.0139. The correlation was found to be slightly stronger between the behavioural symptoms of adjustment disorder and student marks. The resulting Pearson coefficients as reported in table 5.6 show a significant level of below 0.05 for both correlations.

This indicates that the emotional/psychological (p= 0.0348) and behavioural symptoms of adjustment disorder (p= 0.0139) are negatively associated with mean of students' marks (academic performance). Similarly, significant negative results were observed between the total adjustment disorder symptoms and student marks (r= -0.15, p= 0.0106).

Research question three

- Do students' levels of self-awareness in relation to mindfulness and self-consciousness affect their academic performance during the first year of study?

5.4.1.4 Mindfulness and mean of marks correlations

Table 5.7 Correlations in relation to mindfulness, self-consciousness scores and the mean of student marks

Variable	By variable	Correlation	Significance level
Mindfulness	Mean of marks	0.0485	0.43

Table 5.7 shows a very weak positive correlation (r=0.0485) between mindfulness and mean of marks. The relationship was statistically insignificant at a p value of 0.43. The findings indicated that there was no correlation between mindfulness and student marks (academic performance).

5.4.1.5 Self-consciousness and mean of marks correlations

Table 5.8 Correlation in relation to self-consciousness scores and the mean of student marks

Variable	By variable	Correlation	Significance level
Total Self-consciousness (Private, Public and social anxiety)	Mean of marks	-0.0174	0.78

Table 5.8 shows a very weak negative correlation (r= -0.0174) between self-consciousness and mean of marks. The relationship was found to be statistically insignificant at a p value of 0.78. The results in the table indicate that there is no correlation between self-consciousness and student marks (academic performance).

5.4.1.6 Summary of correlations

Mindfulness findings

The results of the correlation analysis indicated a negative moderate to strong correlation between mindfulness and adjustment variables (adjustment disorder symptoms (r= -0.40), depression (r= -0.41) and anxiety (r= -32), all significant with a p value of <0.05. Furthermore, the results indicated a stronger relationship between mindfulness and depression, as well as mindfulness and adjustment disorder symptoms than between mindfulness and anxiety. However, a very weak correlation (r= 0.031); statistically insignificant with a p value of 0.52 was found to exist between mindfulness and mean of marks. Therefore, although a statistically significant relationship was found in relation to mindfulness and the adjustment variables, similar findings were not observed for the relationship between mindfulness and student marks (academic performance).

Self-consciousness findings

The results of the correlation analysis indicated a weak to moderate positive correlation between self-consciousness and adjustment variables (adjustment disorder symptoms (r= 0.165), depression (r= 0.144) and anxiety (r= 0.183); all significant with a p value of <0.05. Looking at the self-consciousness sub-scales and the adjustment variables, a stronger relationship was found to exist between the social anxiety sub-scale and adjustment variables – showing a significant correlation between social anxiety and depression (r= 0.2022), as well as social anxiety and section A of the adjustment disorder symptom checklist (r= 0.2097). This was followed by public self-consciousness, where a significant correlation was found to exist between public self-consciousness and depression (r= 0.1792), between public self-consciousness and the emotional/psychological adjustment disorder symptoms (r= 0.1533), as well as between public self-consciousness and anxiety (r= 0.1287). Private self-consciousness was shown to have the weakest correlation with adjustment variables.

The only significant correlation at a p value of below 0.005 was found to exist between private self-consciousness and the emotional/psychological adjustment disorder symptoms (r= 0.1533), as well as between private self-consciousness and anxiety (r= 0.1584).

However, the results indicated an almost non-existent relationship between self-consciousness and student marks. A very weak correlation ($r= 0.005$); statistically insignificant with a p value of 0.52 was found to exist between mindfulness and mean of marks. Therefore, although a statistically-significant relationship was found to exist between self-consciousness and adjustment variables, similar results were not found to exist in relation to the relationship between self-consciousness and student marks (academic performance).

Adjustment variables and academic performance results

The results showed a correlation between adjustment and academic performance. However, no significant relationship was found to exist between student marks, depression and anxiety. Specifically, a negative correlation was found to exist between adjustment disorder emotional/psychological symptoms ($r= -0.13$) and behavioural symptoms ($r= -0.15$); all significant with a p value of below 0.05.

Overall correlations results

Therefore, the correlation results confirmed relationship **a** (mindfulness and adjustment variables), relationship **b** (self-consciousness and adjustment) and relationship **c** (adjustment variables and student marks, specifically the adjustment disorder emotional/psychological and behavioural symptoms). The correlation results did not confirm relationship **d** (mindfulness and student marks) and relationship **e** (self-consciousness and student marks) (see figure5.7).

5.4.2 PART TWO: Multiple regression analysis

Research question four

- **Which independent variable (mindfulness and self-consciousness) influenced and predicted the dependent variables (adjustment disorder symptoms, depression, anxiety and academic performance) more?**

The researcher sought to investigate independent variables (mindfulness and self-consciousness) that predicted and mostly influenced dependent variables (adjustment disorder symptoms, depression, anxiety and students' marks). For this purpose a multiple regression analysis was conducted. Part two discusses the findings of the multiple regression analysis.

BDI: Depression= MAAS+ SCS-R

Multiple liner regression was calculated to predict students' depression, based on mindfulness and self-consciousness.

The overall model explained 16% of variance in students' depression, which was found to be statistically significant, $F(1, 773) = 29.66$, $p < 0.0001$. The results showed that mindfulness had a greater influence than self-consciousness in predicting students' depression. The standardised beta for MAAS was -0.41 ($p = <0.0001$) and 0.01 ($p = 0.98$) for SCS-R. These results suggest that mindfulness is likely to predict lower levels of depression, while self-consciousness is unlikely to predict students' depression. Therefore, the results showed that only mindfulness significantly predicted students' depression.

BAI: Anxiety=MAAS+SCS-R

Multiple liner regression was calculated based on mindfulness and self-consciousness in relation to students' anxiety.

The overall model explained 14% of variance in students' anxiety, which was shown to be statistically significant, $F(1, 985) = 24.14$, $p < 0.0001$. The results showed that mindfulness had a greater influence than self-consciousness in predicting students' depression. The standardised beta for MAAS was -0.34 ($p = <0.0001$) and 0.12 ($p = 0.028$) for SCS-R. These results suggest that mindfulness is likely to predict lower levels of anxiety in first-year students, while self-consciousness is likely to predict higher levels of anxiety in first-year students.

Adjustment disorder symptoms: Checklist (A+B+C) = MAAS + SCS-R

Multiple liner regression was calculated to predict student adjustment (adjustment disorder symptoms) based on mindfulness and self-consciousness.

The overall model accounted for 14% of variance in student adjustment disorder symptoms, which was found to be statistically significant, $F_{(2, 292)} = 23.87$, $p < 0.001$. The results showed that mindfulness had a greater influence than self-consciousness in predicting student adjustment disorder symptoms. The standardised beta for MAAS was -0.35 ($p = <0.0001$) and 0.09 ($p = 0.987$) for SCS-R. These results suggest that mindfulness is likely to predict fewer adjustment disorder symptoms; and that self-consciousness is likely to predict more symptoms of adjustment disorder. However, the results showed that only mindfulness significantly predicted students' adjustment disorder symptoms.

Mean of student marks = MAAS + SCS-R

Multiple liner regression was calculated to predict students' marks based on mindfulness and self-consciousness.

The overall model accounted for less than 1% of variance in students' marks, which was found to be statistically insignificant, $F_{(2, 272)} = 0.28$, $p < 0.76$. The standardised beta for MAAS was 0.046 ($p = 0.46$) and 0.0017 ($p = 0.78$) for SCS-R. The results showed that even though mindfulness had a greater influence than self-consciousness, both variables were insignificant predictors of student marks. The findings supported the results observed in the correlation analysis – that is the findings showed that mindfulness and self-consciousness were unlikely to predict students' marks (academic performance).

5.4.2.1 Summary of regression analysis

The results of the regression analysis indicated that mindfulness and self-consciousness were likely to predict student adjustment disorder symptoms and anxiety; but not student marks (academic performance).

It was found that only mindfulness was likely to predict depression.

The results of the regression analysis in relation to adjustment disorder symptoms, mindfulness and self-consciousness showed that mindfulness had a stronger relationship (standardised beta = -0.35) with students' adjustment disorder symptoms than self-consciousness (standardised beta = 0.09). Furthermore, the relationship between adjustment disorder symptoms and mindfulness was found to be significant, with a p value of < 0.0001. Similar results were obtained from the regression analysis of mindfulness, self-consciousness and anxiety – where it was found that both mindfulness and self-consciousness were likely to predict anxiety. The results also showed that mindfulness was likely to predict lower levels of anxiety (-0.34, p= <0.0001); while self-consciousness was found to likely predict higher levels of anxiety (0.12, p= 0.028).

Therefore, the results of the regression analysis confirmed relationship **a** (mindfulness and adjustment – adjustment disorder symptoms, depression and anxiety) – although with only significant results observed for anxiety (unlike in the correlation analysis). The results also confirmed relationship **b** (self-consciousness and adjustment disorder symptoms, depression and anxiety). However, the results did not confirm relationship **d** (mindfulness and student marks) and relationship **e** (self-consciousness and student marks) (see figure5.7).

The results of the regression analysis showed that mindfulness was more a predictor of students' adjustment disorder symptoms, depression and anxiety than self-consciousness. Moreover, higher levels of mindfulness were associated with fewer symptoms of adjustment disorder symptoms, depression and anxiety in students.

5.4.3 PART THREE: Mediation results

Research question five

- **Do adjustment variables mediate the effect of mindfulness and self-consciousness on students' academic performance?**

The researcher sought to investigate whether the adjustment variables (adjustment disorder symptoms, depression, anxiety and students' marks) mediated the effect of the independent variables (mindfulness and self-consciousness) on academic performance. For this purpose mediation analysis was conducted. Part three discusses the findings of the mediation analysis.

Self-consciousness results
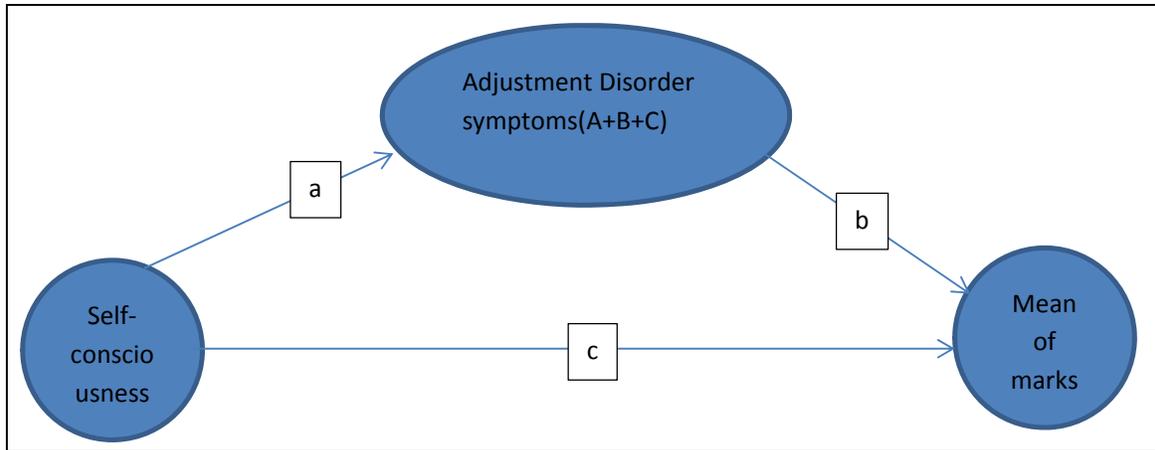
Figure 5.10 Self-consciousness, adjustment disorder symptoms and student marks

Figure 5.10 indicates a significant positive **a** relationship between self-consciousness and the adjustment disorder symptoms at 0.14 and a p value of 0.02. The findings confirmed a significant negative **b** relationship between adjustment disorder symptoms and marks at -0.144 and a p value of 0.02.

The findings indicated that although there was no direct relationship between self-consciousness and student marks at 0.12 and p value of 0.84, self-consciousness, which was found to predict adjustment disorder symptoms, could indirectly affect students' marks. However, in testing the effects of mediation, a Sobel test, a specialized **t test** that provides a method to determine whether the effect of the independent variable is significant and therefore whether the **mediation effect** is statistically significant (Sobel, 1982), indicated an insignificant p value of 0.09. Therefore, the significant **b** relationship calls for further research.

Self-consciousness, depression and student marks
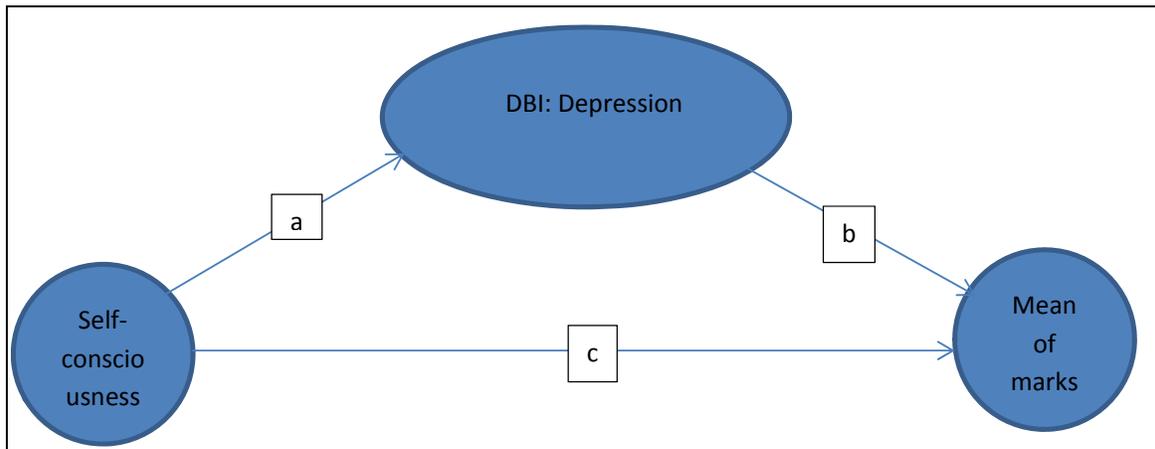
Figure 5.11 Self-consciousness, Depression and student marks

Figure 5.11 shows an insignificant positive **a** relationship between self-consciousness and depression at 0.08 and a p value of 0.17. Also, the findings revealed an insignificant negative **b** relationship between depression and marks at -0.08 and a p value of 0.19. The results showed no direct relationship between self-consciousness and student marks at 0.12 and p value of 0.84, indicating no mediating effect. The Sobel test confirmed the above and indicated an insignificant p value of 0.34.

Self-consciousness, anxiety and student marks
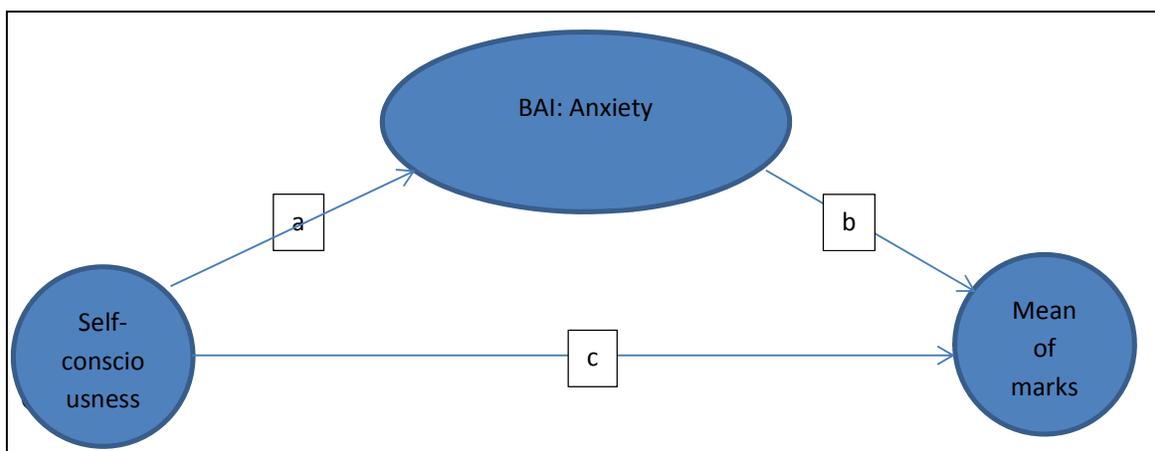
Figure 5.12 Self-consciousness, anxiety and student marks

Figure 5.12 indicates a significant positive **a** relationship between self-consciousness and anxiety at 0.19 and p value of 0.002. However, the findings showed an insignificant negative **b** relationship between anxiety and marks at -0.04 and a p value of 0.48.

The results showed no direct relationship between self-consciousness and student marks at 0.12 and a p value of 0.84, indicating no mediating effect. The Sobel test confirmed the above and indicated an insignificant p value of 0.46.

Mindfulness results

Mindfulness, adjustment disorder symptoms and student marks
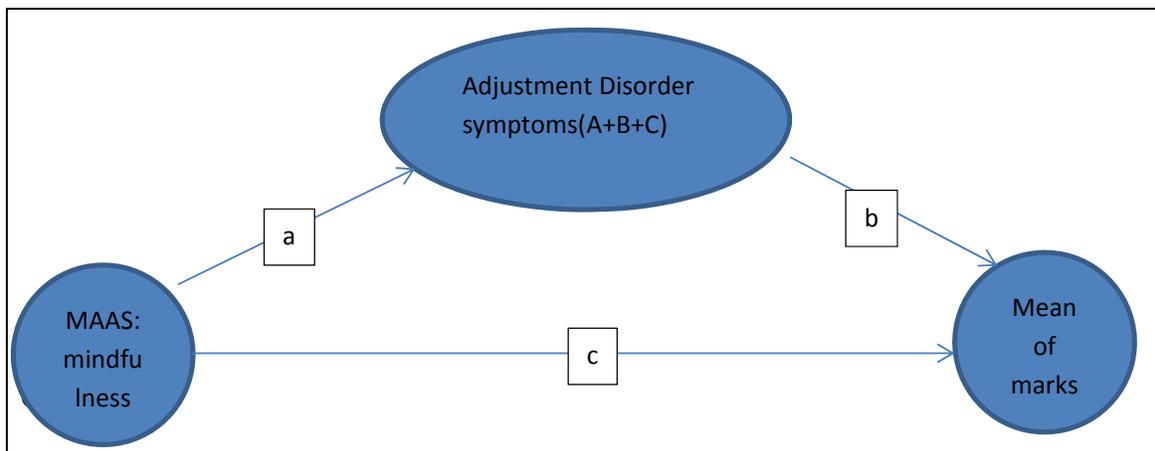
Figure 5.13 Mindfulness, adjustment disorder symptoms and student marks

Figure 5.13 indicates a significant negative **a** relationship between mindfulness and adjustment disorder symptoms at -0.39 and p value of 0.000. The findings revealed a significant negative **b** relationship between adjustment disorder symptoms and marks at -0.144 and a p value of 0.016. The results indicated that although there was no direct relationship between mindfulness and student marks at 0.04 and a p value of 0.53, mindfulness; which predicts adjustment disorder symptoms, could indirectly affect marks. In testing the effects of mediation, a Sobel test indicated a significant p value of 0.03.

Mindfulness, depression and student marks
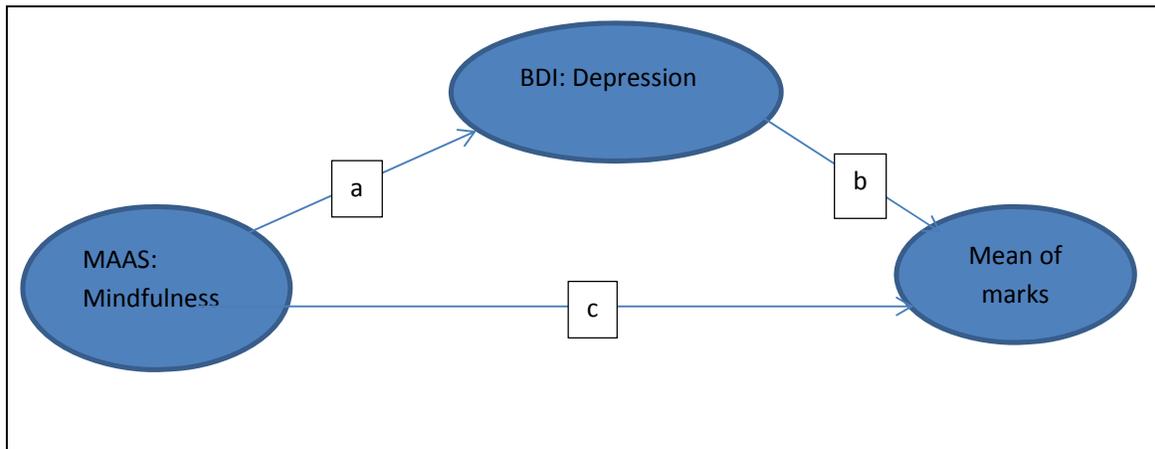
Figure 5.14 Mindfulness, depression and student marks

Figure 5.14 indicates a significant negative **a** relationship between mindfulness and depression at -0.43 and a p value of 0.000. However, the findings revealed an insignificant negative **b** relationship between depression and marks at -0.08 and p value of 0.19. The results showed no direct relationship between mindfulness and student marks at 0.04 and a p value of 0.53, indicating no mediating effect. The Sobel test confirmed the above and indicated an insignificant p value of 0.26.

Mindfulness, anxiety and student marks
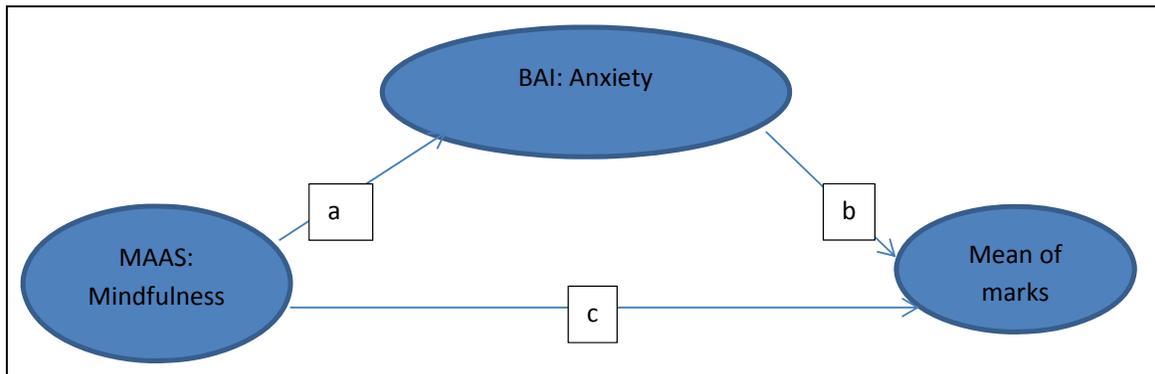
*Figure 5.15* Mindfulness, adjustment disorder symptoms and student marks

Figure 5.15 indicates a significant negative **a** relationship between mindfulness and anxiety at 0.38 and p value of 0.000. However, the findings revealed an insignificant negative **b** relationship between anxiety and marks at -0.04 and a p value of 0.48. The results showed no direct relationship between mindfulness and student marks at 0.04 and a p value of 0.53, indicating no mediating effect. The Sobel test confirmed the above and indicated an insignificant p value of 0.61.

5.4.3.1 Summary of mediation results

Self-consciousness

The self-consciousness mediation results showed that self-consciousness had no significant relationship with depression at 0.083 and a p value of 0.17, and that no mediation effect was observed. Even though a significant relationship was found to exist between self-consciousness and anxiety at 0.19 and a p value of 0.002, no mediation effect was observed. Self-consciousness was found to have a significant relationship with adjustment disorder symptoms at 0.14 and a p value of 0.02. A significant relationship was found to exist between adjustment disorder symptoms and marks at 0.14 and a p value of 0.02, indicating a mediating effect. However, the Soble test showed that this effect was insignificant at 0.09. Also, due to the very weak significant **b** relationship, further research is required to explore the mediation effect.

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<u>Mindfulness</u>

The mindfulness mediation results showed that mindfulness had a significant relationship with depression at -0.43 and a p value of 0.00, but no significant relationship was found to exist between depression and student marks at -0.08 and a p value of 0.19. Therefore, no mediation effect was observed for mindfulness, depression and student marks. Even though a significant relationship was found to exist between mindfulness and anxiety at 0.19 and a p value of 0.002, a significant relationship was also found to exist between anxiety and marks. Therefore, no mediation effect was observed for mindfulness, anxiety and marks. Mindfulness was found to have a significant relationship with adjustment disorder symptoms at 0.39 and a p value of 0.000 – a significant relationship was also observed for adjustment disorder symptoms and marks at 0.14 and a p value of 0.016, indicating a mediating effect. The Soble test showed that this effect was significant at 0.03. Once again, due to the very weak significant **b** relationship, further research is required to explore the mediation effect.

5.5 Hypotheses testing

The study has investigated the relationship between mindfulness and self-consciousness on adjustment and academic performance. The study sought to test five hypotheses with regards to the impact of mindfulness and self-consciousness on adjustment and academic performance of first-year students at Tshwane University of Technology.

<u>Hypothesis one</u>

H1= High scores in mindfulness have a positive correlation to adjustment of first-year students. Mindfulness negatively correlates with adjustment disorder symptoms, depression and anxiety – that is, students with higher levels of mindfulness are less likely to experience difficulties in adjusting; and this translates into fewer symptoms of adjustment disorders, as well as lower levels of depression and anxiety.

The findings above confirmed hypothesis one and showed that high scores in mindfulness have a positive correlation to first-year students' adjustment. Mindfulness was also found to have a significant negative correlation with adjustment disorder symptoms (r= -0.37), depression (r= -0.41) and anxiety (r= -0.35).

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Hypothesis two

H2= High scores in self-consciousness have a positive correlation to the adjustment of first-year students. Students with higher levels of self-consciousness are less likely to experience difficulties in adjusting; and this translates into lower levels of depression and anxiety.

The findings did not confirm hypothesis two. Rather, the correlations results suggest that students with higher levels of self-consciousness are more likely to experience more adjustment disorder symptoms ($r= 0.1651$, $p= 0.0046$) depression ($r= 0.1442$, $p= 0.0137$) and anxiety (0.1831, $p= 0.0016$). Furthermore, the results of the regression analysis indicated that self-consciousness (standardised beta of 0.09, $p = 0.0987$) was unlikely to impact on or predict students' adjustment disorder symptoms or depression (standardised beta of 0.001, $p= 0.98$). The findings showed that self-consciousness was likely to impact more on students' anxiety (standardized beta of 0.12, $p= 0.028$) and also predict it – that is, although self-consciousness in students was associated with more symptoms of adjustment disorder, depression and anxiety in first-year students, self-consciousness could only predict students' anxiety.

The hypotheses on the self-consciousness sub-scales were partially confirmed:

Hypothesis on private self-consciousness

Private self-consciousness correlates positively with adjustment and academic performance – that is, private self-consciousness has a negative correlation with adjustment disorder symptoms, depression and anxiety and positive correlation with student marks.
The findings did not confirm this hypothesis. Rather, the results suggest that students with higher levels of private self-consciousness are more likely to experience adjustment difficulties – that is, they are more likely to experience more adjustment disorder symptoms, depression and anxiety. The findings also suggest no significant relationship between private self-consciousness and academic performance (students' marks).

Hypothesis on public self-consciousness

Public self-consciousness correlates negatively with adjustment and academic performance – that is, public self-consciousness has a positive correlation with adjustment disorder symptoms, depression and anxiety and negative correlation with student marks.

The findings confirmed this hypothesis. The results suggest that students with higher levels of public self-consciousness are more likely to experience adjustment difficulties – that is, students are more likely to experience more adjustment disorder symptoms, depression and anxiety. The findings also suggest no significant relationship between public self-consciousness and academic performance (students' marks).

Hypothesis on social anxiety

Social anxiety correlates negatively with adjustment and academic performance – that is, social anxiety has a positive correlation with adjustment disorder symptoms, depression and anxiety and negative insignificant correlation with student marks.

The findings confirmed this hypothesis. The results suggest that students with social anxiety are more likely to experience adjustment difficulties – that is, students are more likely to experience more adjustment disorder symptoms, depression and anxiety. The findings also suggest no significant relationship between public self-consciousness and academic performance (students' marks).

Hypothesis three

H3= There is a positive correlation between first-year students' adjustment and academic performance. Therefore, depression, anxiety and adjustment disorder symptoms correlate negatively with their academic performance.

The findings partially confirmed hypothesis three, which states that there is a positive correlation between first-year students' adjustment and academic performance.

No significant correlation was found to exist between depression and students' marks, as well as between anxiety and students' marks. In this regard, the null hypothesis is confirmed for depression and academic performance, as well as for anxiety and academic performance.

However, a significant negative correlation was established between adjustment disorder symptoms and academic performance (r= -0.1544, p = 0.0106) – specifically student marks negatively correlated with the emotional/psychological symptoms of adjustment disorder (r= -0.13, p= 0.0106) and the behavioural symptoms of adjustment disorder (r= -0.15, p= 0.0139), indicating that adjustment disorder symptoms in first-year students negatively impacted on academic performance.

Hypothesis four

H4= High scores in mindfulness have a positive correlation to academic performance of first-year students. Students with higher levels of mindfulness are more likely to perform better academically.

The findings did not confirm hypothesis four, which states that students with higher levels of mindfulness are more likely to perform better. Instead, the findings of the correlation analysis confirmed the null hypothesis as there was no significant correlation observed between mindfulness and student marks (r= 0.040, p= 0.52).

Hypothesis five

H5= High scores in self-consciousness have a positive correlation to academic performance of first-year students. Students with higher levels of self-consciousness are more likely to perform better academically.

The findings did not confirm hypothesis five, which states that students with higher level of self-consciousness are more likely to perform better. Instead, the findings of the correlation analysis confirmed the null hypothesis as no significant correlation was found to exist between self-consciousness and student marks (r= 0.005, p= 0.94).

H6= Mindfulness will impact or mostly predict students' adjustment and academic performance than self-consciousness.

The results of the regression analysis confirmed hypothesis six and showed that mindfulness (standardised beta of -0.35, p = <0.0001) impacts more on students' adjustment disorder symptoms than self-consciousness (standardised beta of 0.09, p= 0.0987), students' depression (standardised beta of -0.41, p=< 0.0001) and students' anxiety (standardised beta of -0.34, p=< 0.0001). Thus, higher levels of mindfulness in students were associated with fewer adjustment disorder symptoms and lower levels of depression and anxiety in first-year students. Higher levels of mindfulness were also found to predict fewer symptoms of these variables.

The regression analysis indicated that mindfulness is unlikely to predict student marks (academic performance), showing a standardised beta of 0.046 and a p value of 0.46. Similar results were observed in the regression analysis, which indicated that self-consciousness was unlikely to predict student marks (academic performance), showing a standardised beta of 0.017 and a p value of 0.78.

Hypothesis seven

H7=Adjustment disorder symptoms, depression and anxiety mediate the effect of mindfulness and self-consciousness on students' academic performance.

The results of the mediation analysis partially confirmed hypothesis seven. The results indicated that mindfulness and self-consciousness could impact on students' marks through adjustment disorder symptoms. The mediation results indicated a very weak insignificant impact of self-consciousness on students' marks through adjustment disorder symptoms. However, this effect was found to be insignificant. The mediation effect was only significant in the relationship between mindfulness, adjustment disorder symptoms and mean of students' marks. Even so, the effect was observed to be very weak.

5.6 Conclusion

The chapter discussed the statistical analysis of the data. In the first part correlations analysis was conducted in order to determine relationships between mindfulness, self-consciousness, adjustment variables and student marks.

The second part discussed the regression analysis, which was conducted to determine independent variables of the study (mindfulness and self-consciousness) that predicted as well as impacted more on adjustment variables (adjustment disorder symptoms, depression and anxiety) and academic performance (student marks).

The third part discussed the mediation analysis, which was conducted to determine if the independent variables of the study (mindfulness and self-consciousness) mediated the effects of the adjustment variables (depression, anxiety and adjustment disorder symptoms) on students' academic performance (mean of marks). Hypothesis testing was also conducted to investigate the impact of mindfulness and self-consciousness on students' adjustment (depression, anxiety and adjustment disorder symptoms) and academic performance (mean of marks).

The findings partially confirmed the hypotheses of the study and showed that both mindfulness and self-consciousness impacted on students' adjustment disorder symptoms, depression and anxiety. However, the findings revealed that mindfulness had a negative relationship with the adjustment variables, while self-consciousness had a positive relationship with the adjustment variables.

The findings showed that mindfulness would most likely predict less adjustment disorder symptoms, less depression and less anxiety in students, while self-consciousness would unlikely predict adjustment disorder symptoms and depression. Self-consciousness would likely predict more anxiety. Although the findings revealed that mindfulness and self-consciousness seemed to indirectly affect marks through adjustment disorder symptoms, this effect was only significant in mindfulness, adjustment disorders symptoms and marks.

Even though the mediation results suggest some mediating effect, the very weak relationship between adjustment disorder symptoms and marks however, calls for a further investigation, as this effect could not be found to be conclusive.

Chapter six analyses and discusses the findings in more detail.

CHAPTER SIX

DISCUSSION OF THE RESULTS, RECOMMENDATIONS AND CONCLUSION

6.1 Introduction

This study examined the impact of mindfulness and self-consciousness on first-year students' adjustment and academic performance. The theoretical positions as introduced in Chapter two and the classification and evaluation of the findings from the literature reviewed (Chapter three) were tested against the empirical data collected for the study. The chapter provides an overview of the study, a discussion of the results, conclusions based on the findings, implications regarding the issues raised by the study, as well as suggestions for future research.

6.2 Discussion of the results

The transition from high school to institutions of higher learning can result in adjustment difficulties for first-year students (Pittman & Richmond, 2008). Many students struggle to adjust upon arrival at institutions of higher learning (Brooks & DuBois, 1995). These adjustment difficulties can impact on students' academic performance (Clinciu, 2013; Habayed & Abu Marak, 2009; Tinto, 1993). The effects of these adjustment difficulties and poor academic performance can lead to students' withdrawal/drop out, which poses a challenge for the retention of students in institutions of higher learning (Barefoot, 2004; Cabrera et al., 2006; Levitz & Noel, 1989; Tinto, 1993).

The general assumption is that as students adjust to university life and the university environment the more effective they will be in utilising resources around campus (e.g. student development and support). Their interaction with fellow students and lecturers will also improve; and this will in turn, continue to contribute to their academic performance (Huysamen, 1999). Therefore, while students' poor academic performance can be attributed to several factors, adjustment difficulties are highlighted as an important contributing factor in this regard.

While extensive research conducted in South Africa has focused on diverse contributing factors such as structural, political, familial and financial problems (Beckham, 2000; Bojuwoye, 2002; Delvare, 1995; Human Science and Research Council, 2005; Letseka & Breier, 2008; Petersen et al., 2009), very few studies have examined students' psychological/personal attributes and coping resources during students' transition into institutions of higher learning, which highlights the importance of this exploration.

Much remains unknown as far as the relationship between students' psychological/personal attributes, coping resources, adjustment and academic performance during their first year of study at tertiary institutions is concerned. Little is also known about psychological/personal attributes as coping resources during the transition to institutions of higher learning and their subsequent impact on adjustment and academic performance.

Thus, the current study aimed to explore the impact of psychological/personal attributes on first-year students' adjustment and academic performance. Specifically, mindfulness and self-consciousness in first-year students were explored in relation to emotional/psychological adjustment (adjustment disorder symptoms, depression and anxiety) and academic performance (students' marks). The Self-Consciousness Scale (Revised) and the Mindfulness Attention Awareness Scale (MAAS) were administered together with the Beck Depression Inventory (BDI), the Beck Anxiety Inventory (BAI) and the Adjustment Disorder Symptom Checklist to determine the level of first-year students' adjustment. Students' results/marks were obtained from the relevant faculties at the Tshwane University of Technology to assess their academic performance. Correlation, regression and mediation analyses were conducted in order to determine relationships.

The main aim of the current study was therefore, to explore the relationships between mindfulness and self-consciousness (independent variables of the study), the adjustment variables of the study (adjustment disorder symptoms, depression and anxiety) and academic performance (students' marks) (dependent variables).

6.2.1 Mindfulness, adjustment disorder, depression, anxiety and academic performance

The effect of mindfulness on supporting coping processes can be understood in numerous ways. For example, Lazarus and Folkman (1984) regarded mindfulness as initiating adaptive responses by decentering the stress appraisal. Baer (2006) maintained that the self-observation aspect of mindfulness promotes coping. Weinstein et al. (2009) maintained that mindfulness changes cognitive appraisals of experience by altering the quality of attention focused on the event, reducing negative emotions and cognitions; thus minimising the propensity to perceive situations in a stress-inducing manner. Deci and Ryan (2003) regarded the coping effects of mindfulness as embedded in its ability to deter individuals from the use of habitual thoughts and unhealthy behavioural patterns, leading to self-endorsed behavioural regulation. Neff (2003) regarded mindfulness as promoting non-judgement, creating separation from negative experiences and acceptance of emotions, thoughts and situations; thus inducing feelings of self-kindness and self-compassion. Whichever the mechanisms at play, Kabat-Zinn (1990) maintained that the mechanisms of mindfulness are regarded as potentially-effective antidotes against common forms of psychological distress such as rumination, worry and anxiety, which often involves maladaptive tendencies such as avoidance, suppression as well as over engagement in distressing thoughts and emotions. Hence, there is growing recognition for the role played by mindfulness in reducing symptoms associated with psychological distress in students.

The findings of the current study support the assertion by Kabat-Zinn. The findings showed a significant negative relationship between mindfulness and the adjustment variables of the study – that is, adjustment disorder symptoms, depression, and anxiety. Furthermore, the results of the regression analysis showed that mindfulness is more likely to predict less symptoms of adjustment disorder symptoms, depression and anxiety in first-year students. The results indicated that mindfulness can help first-year students cope with adjustment disorder symptoms, depression and anxiety.

The results support the findings of studies such as those conducted by Dyson and Renk (2006), who asserted that mindfulness can serve as a useful tool for adaptive coping for students, particularly first-year students experiencing various social, personal and academic stressors.

The findings also corroborate the findings of the study conducted by Bamber and Schneider (2016), who suggested that mindfulness can serve as an effective tool in assisting students to reduce stress and anxiety.

The findings of the current study are similar to those obtained in a study conducted by Ahmadi et al. (2014), which showed that higher levels of mindfulness in students in institutions of higher learning could improve their physical as well as mental health. Also, the findings of this study are similar to those of a study conducted by Gordon et al. (2014), which reported improvements in students' psychological well-being, particularly students experiencing stress, anxiety, and low mood.

The findings of the current study also support growing calls for the integration of mindfulness as a stress-reducing tool that can assist students with adaptive coping and resilience (Mrazek et al., 2013; Tan & Martin, 2012). Similar to the study conducted by Mettler et al. (2017) involving first-year university students in Canada, the findings of the current study provide empirical support for the role of dispositional mindfulness in the adjustment of South African first-year university students.

However, the findings of the current study provided very weak support for the relationship between mindfulness and academic performance. The correlations results showed a positive insignificant relationship between mindfulness and students' marks. The regression analysis results also showed that mindfulness is unlikely to predict better academic performance (students' marks) in first-year students. Rather, the findings suggest that the impact of mindfulness on students' academic performance could be mediated by adjustment disorder symptoms. The mediation results of the current study showed that mindfulness could indirectly impact on students' marks through students' adjustment disorder symptoms. However, even though this mediation effect was found to be significant, the mediation effect was weak, suggesting the need for a further investigation.

Even so, the indirect effect of mindfulness in first-year students' academic performance (mediated by other factors/variables) supports findings obtained from other studies such as the one conducted by Altairi (2014), where it was found that first-year students who reported higher levels of mindfulness experienced lower levels of trait cognitive test anxiety, which enabled them to obtain higher scores during exams.

The findings of the study indicated that mindfulness in first-year students had an indirect effect on exam performance, which was fully mediated by a direct effect of trait cognitive test anxiety. Therefore, the findings of the current study suggest that adjustment disorder symptoms could also be explored as another factor/variable that mediates the effect of mindfulness on students' academic performance.

6.2.2 Self-consciousness, adjustment disorder, depression, anxiety and academic performance

As indicated in Chapter three, the coping effects of self-consciousness have been observed in studies that have reported the benefits of self-consciousness in increasing awareness of attitudes (Gibbons, 1983). Self-consciousness also enhances the effects of self-regulatory activities, thereby allowing better self-regulation (Carver et al., 1979; Lischetzk & Eid, 2003), the role it plays in the regulation of strategic self-representational behaviour (Doherty & Schlenker, 1991), in monitoring one's behaviour (Pinku & Tzelgov, 2006), as a preventative factor in internalising problems (inner-directed – generating distress in the individual), as well as externalising problems (outer-directed – generating discomfort in the environment) (Nie et al., 2014).

However, self-consciousness as a coping resource has received mixed reviews. The mixed reviews have added to the complexities of understanding self-consciousness and determining whether self-consciousness should be regarded as beneficial or detrimental, especially in enhancing adaptive behaviour. These reviews and the complexities mentioned above have been referred to in literature as the paradox of self-consciousness (Trapnell & Campbell, 1999). More so, this paradox has been observed in the impact that self-consciousness has on how students in institutions of higher learning cope (Harrington & Loffredo, 2001).

The findings of the current study support findings from other studies that found self-consciousness to be detrimental to coping and adjustment. The findings showed a significant positive relationship between self-consciousness and the adjustment variables of the study – that is, adjustment disorder symptoms, depression, and anxiety. Furthermore, the findings of the regression analysis showed that self-consciousness is unlikely to predict symptoms of adjustment disorder and depression in first-year students.

Self-consciousness was found to be able to only significantly predict students' anxiety – that is, self-consciousness significantly predicted higher levels of anxiety in first-year students. The findings of this study are in line with the findings of studies similar to the one conducted by Harrington and Loffredo (2001) that showed that most dimensions of psychological well-being were negatively related to self-consciousness.

Also, the findings of the current study did not show evidence of the differences in the facets of self-consciousness reported in studies similar to the one conducted by Matthews and Wells (1994), which suggested that public self-consciousness and private self-consciousness have opposing effects on behaviour and coping. Rather, the findings of the current study showed that all the sub-scales of self-consciousness (that is private self-consciousness, public self-consciousness and social anxiety) had the same effect on students' adjustment – that is, all the facets positively correlated with the adjustment variables (adjustment disorder symptoms, depression and anxiety). The findings of the current study support the findings of other studies conducted on public self-consciousness that have indicated that public self-consciousness could be correlated to depression and anxiety (Reeves et al., 1995) and poor coping (Matthews & Wells, 1994). The findings of the current study are also in line with the findings of the study by Ingram (1990), who found elevated levels of private self-consciousness on groups of depressed, anxious and depressed-anxious students. Also, the findings of the study seem to support Matthews and Wells (1994) who maintained that private self-consciousness could lead to a cognitive overload effect that could be maladaptive.

Even though the study did not focus on the facets of private self-consciousness, it is important to note that the results obtained in relation to private self-consciousness could be due to the interplay between the different facets of private self-consciousness (that is, self-reflectiveness and internal state awareness), specifically self-reflectiveness. The findings of a study conducted by Panayiotou and Kokkinos (2006) showed that self-reflectiveness can be implicated in psychological symptomatology, and has been found to predict shame, guilt and social anxiety. However, internal state awareness has been found to predict mental health (Watson et al., 1996).

The findings of the current study provided no support for the relationship between self-consciousness and academic performance. The correlations results showed an insignificant negative relationship between self-consciousness and students' academic marks. The results of the regression analysis also showed that self-consciousness is unlikely to predict better academic performance (students' marks) in first-year students. Rather, the findings suggest that the impact of self-consciousness on students' academic performance could be mediated by adjustment disorder symptoms. The mediation results of the current study showed that self-consciousness could indirectly impact on students' marks through adjustment disorder symptoms. However, the mediation effect was found to be insignificant.

The findings of the current study support research findings reported in studies such as the one conducted by Beck et al. (2009) who reported that high levels of self-consciousness could lead to self-handicapping behaviour such as academic procrastination, which could negatively affect academic performance. Joel (1979) also demonstrated that self-consciousness can negatively impact on task performance.

The findings of the current study indicate that self-consciousness cannot be seen as helping first-year students cope with adjustment disorder symptoms, depression and anxiety. Rather, the findings suggest that self-consciousness could hinder coping, and could lead to adjustment difficulties in first-year university students. The findings also suggest that the relationship between self-consciousness and academic performance (students' marks) needs to be explored further.

6.2.3 Adjustment disorder, depression, anxiety and academic performance

The current study aimed to explore how different levels of anxiety and depression relate to first-year students' adjustment and academic performance. As discussed in Chapter one, student emotional adjustment refers to psychological and physical well-being and relates to psychological distress and associated somatic complaints (Baker & Syrik, 1986). According to Pappas and Loring (1985) emotional adjustment difficulties in first-year students in institutions of higher learning may present as psychological distress, including depression and/or anxiety, and have been found to predispose students to dropping out.

Depression has been found to be the one psychological disorder that first-year students are at the most risk of developing, with prevalence of as much as 50% in the university student population (Fouilloux Morale et al., 2013), and up to 44% reported prevalence across different countries (Busaidi et al., 2011). Furthermore, studies such as the one conducted by Turner et al. (2012) show that depression can have a negative impact on cognitive functioning, and can therefore, also negatively affect students' academic performance.

The findings of the current study do not support the above findings on depression and students' academic performance. However, this could be due to the fact that most students in the study reported normal to mild levels of depression. Research findings such as those reported by Turner et al. (2012) showed that the severity of the depression symptoms could determine the effects of the depression on academic performance – students who were found to have major depressive disorder performed worse academically than those who experienced mild to moderate symptoms. Therefore, the findings of the current study on students' depression and academic performance could be due to the low levels of depression reported by the students in the study.

Similarly, higher levels of anxiety have been reported in university students at the very beginning of their first year (Cooke et al., 2006). Noyes and Hoehn-Saric (1998) reported that the high levels of anxiety have been found to alter the quality of cognitive performance. Accordingly, cognitive distortions, which are escalated when a person is anxious, may lead to individuals' focusing on thoughts that are irrelevant to the task – and these cognitive distortions can lead to an escalated feeling of vulnerability, automatic processing and cognitive asymmetry in individuals. For an individual who has not yet mastered a situation, the situation can evoke a sense of fear, loss of control and uncertainty, and this may increase the level of anxiety. The findings of the current study supports the assertion regarding first-year students and high levels of anxiety, as first-year students who participated in the study reported higher levels of anxiety – most students were experiencing moderate to potentially concerning levels of anxiety.

However, even though studies such as the one conducted by Noyes and Hoehn-Saric (1998) showed that mild anxiety levels can be associated with improved performance and high anxiety levels with deterioration in performance, the findings of the current study did not provide evidence of a relationship between levels of anxiety and academic performance.

Even with no significant relationship observed between anxiety and academic performance, these higher levels of anxiety are still concerning. Ruffins (cited in Vitasari et al., 2010) stated that first-year students experiencing anxiety will have symptoms such as panicking, going blank during a test, feeling helpless while doing assignments, lack of interest in difficult subjects, worry and fear concerning academic performance, blocks of memory, nervousness, panic, concentration and attention. More so, since the findings of the current study showed that 20.56% of the respondents reported feeling nervous, while 30.63% reported that they feared for the worst.

Likewise, studies such as the one conducted by Sturmey and Hersen (2012) revealed the high prevalence of adjustment disorder in university students. The findings of the current study support the assertion by Sturmey and Hersen. Most students who participated in the study reported adjustment disorder symptoms. The current results showed that there were more "yes" responses for the emotional/psychological symptoms (section A of the checklist) than for the behavioural and the situational factors. The most prevalent symptoms reported by respondents included feeling highly nervous (59.31%), excessive worry (55.75%), feeling desperate (55.75%), and difficulty concentrating (44.60%). These feelings were more excessive than what students expected to experience upon entry into the university (49.30%).

These findings are similar to those reported in a study conducted by the American College Health Association (2004), which showed the majority of the students (94%) who participated in the study felt overwhelmed by the demands of university life. The findings of the current study also corroborate the findings of the study conducted by Gall et al. (2000), who maintained that the anticipation of what awaits the students and the initial adaptations they need to make are likely to be experienced as stressful. Also, the findings support the observations by Brooks and DuBois (1995), who maintained that the move to university is often one of the first major life transitions people undergo, and many students may not be prepared to effectively handle the change.

Furthermore, the findings of the current study support the findings of a study conducted by Clinciu (2013), who showed that the first year of study, especially the first semester, is regarded as the most critical adaptation time that can pose numerous adjustment difficulties for students. Habayed and Abu Marak (2009) maintained that these adjustment challenges could affect academic performance and create barriers to students' success at a university.

The findings of the current study support this assertion as a significant relationship was found to exist between student adjustment disorder symptoms and academic performance.

The findings above support the findings of a study conducted by Pappas and Loring (1985) in that emotional adjustment difficulties in first-year students in institutions of higher learning may present as psychological distress, including depression and/or anxiety, which have been found to predispose students to dropping out.

6.2.4 Summary of research findings

In the current study both mindfulness and self-consciousness were found to impact on students' adjustment – that is students' adjustment disorder symptoms, depression and anxiety. Furthermore, both mindfulness and self-consciousness were found to have a significant relationship with students' adjustment disorder symptoms, depression and anxiety. However, in the current study mindfulness was found to have a negative relationship with the adjustment variables, while self-consciousness was found to have a positive relationship with the adjustment variables. Also, all the self-consciousness sub-scales (that is, private self-consciousness, public self-consciousness and social anxiety) positively correlated with the adjustment variables (adjustment disorder symptoms, depression and anxiety).

The findings of the current study suggest that only mindfulness can be associated with better emotional adjustment of first-year students – that is, less adjustment disorder symptoms, less depression and less anxiety. This indicates that although both mindfulness and self-consciousness are significant in students' adjustment in terms of adjustment disorder symptoms, depression and anxiety, only mindfulness can be regarded as a coping resource for first-year students' emotional adjustment difficulties.

Furthermore, the findings of the current study indicated a significant relationship between adjustment (specifically adjustment disorder symptoms) and academic performance (students' marks), a significant impact of mindfulness on students' academic performance (mediating effect), as well as an insignificant impact of self-consciousness on students' academic performance (mediating effect).

6.3 Theoretical perspective

A number of theories used to explain first-year students' development and adjustment were explored earlier (Chapter two). The discussion took a holistic view of student development and adjustment theories, which included cognitive-structural theories, humanistic-existential theories, person-environmental theories, typology theories and psychosocial theories. Specifically, the current study was based on Schlossberg's theory of transition within the psychosocial theories.

The findings of the current study point to the transitional challenges experienced by first-year students in South Africa. The findings also indicated that first-year students experience emotional adjustment difficulties, especially adjustment disorder symptoms, which are daunting and beyond what first-year students expected when they moved into the university environment. This was also evidenced by the responses of many of the research participants (more than 40%) who reported feeling nervous, excessively worried, desperate and had difficulty concentrating. A large number of research participants reported that these feelings were more excessive than what they expected. As posited by the transition theory, starting with first-year studies at an institution of higher learning may be an anticipated transition, but the emotional/adjustment difficulties during the first year of study for most students may be viewed as unexpected (Schlossberg, 2008).

The theory also stipulates the need for coping resources in assisting students to cope with the changes that come with the transition (Schlossberg, 2011). Accordingly, there are self-coping resources, situation coping resources, support coping resources and strategies. These resources assist individuals to modify the situation, to control the meaning of the problem (that is to cognitively neutralise the threat), and/or to manage stress after it has occurred, as well as aid in adapting to current stress without being overcome by the stress (Goodman & Anderson, 2012).

The findings of the current study provided empirical evidence that suggest that mindfulness as a coping resource could help facilitate successful transition into higher education environments. In addition, the findings suggest that mindfulness, through adjustment disorder symptoms, could positively impact on students' academic performance.

However, the opposite was found to be true for self-consciousness as it was found to hinder students' adjustment. The findings showed that self-consciousness could be considered as a resource that hindered coping in first-year students.

Ryan et al. (2011) maintained that resources can either facilitate or hinder a successful transition, and that how students perceive the stress experienced during the transition determines how they will ultimately cope with the transition. The differences observed between mindfulness and self-consciousness could be as a result of how they impact on perception. DaSilveira et al. (2015) explained that self-consciousness focuses on past experiences and judged concepts that were already processed while mindfulness focuses on present experiences in which one is aware of without any further judgement.

6.4 Applications and implications of the study

Although there is growing evidence that suggests that building self-awareness can contribute to successful transition of students into institutions of higher learning (Higbee & Dwinell, 1992; Nordell Fort, 2015; Villanueva, 2015), the findings of the current study suggest that not all components of self-awareness can be considered beneficial in this regard. The results showed that mindfulness could be considered as beneficial, but that self-consciousness could not be considered beneficial.

The findings of the current study are relevant to institutions of higher learning and student development departments who may consider screening first-year students for symptoms of adjustment disorder, levels of anxiety and levels of depression in assisting them to adjust to university environments.

The findings of the current study also suggest the need to manage first-year students' levels of self-consciousness which was found to hinder students' adjustment to university life (depression, anxiety and adjustment disorder symptoms) significantly. This could be done through the incorporation of the Self-Consciousness Scale-Revised as part of the battery of screening tests that form part of first-year students' profiling programme. Students who are found to have high levels of self-consciousness could be referred to programmes that are aimed at enhancing the first-year experience of students, for example, life skills programmes and personal counseling programmes.

The findings of the current study are also relevant to institutions of higher learning and student development departments, as they provide evidence that the introduction of mindfulness-based interventions can be considered in programmes intended to assist first-year students, not only with emotional adjustment, but also with the improvement of their academic performance.

In terms of knowledge production, the findings of the current study could be applied through the disciplines of psychology and education. The findings suggest prevention, psycho-education and counseling as modes of application.

The findings of this study can be passed through student development and support intervention programmes to be utilised to better prepare first-year students for possible adjustment difficulties and to better understand the emotional adjustment difficulties that might hinder optimal adjustment and academic performance of first-year students.

The findings of the current study add to the body of knowledge regarding first-year students' transition into institutions of higher learning, adjustment and academic performance. The findings of the study are also particularly important, since little research has been conducted on South African first-year students' experiences during the transition into institutions of higher learning and their adjustment and subsequent academic performance. Therefore, the study makes a valuable contribution to the body of knowledge on the topic.

6.5 Limitations

The present study is however, not without limitations. First, the study was limited to participants who volunteered to participate. Second, the study was limited by the number of participants surveyed and the amount of time available to conduct the study, therefore the study was only conducted in one institution of higher learning in South Africa (Tshwane University of Technology). The findings results are, therefore, applicable only to the current study which may make the generalisation of the results rather difficult. Third, the validity of the study was limited to the reliability of the instruments used. Fourth, a limited number of qualities were examined as they related to student adjustment and academic performance; the study only considered students' emotional adjustment and students' academic marks.

6.6 Recommendations

One of the major findings of the current study is that the majority of first-year students registered at Tshwane University of Technology, South Africa experience emotional adjustment difficulties during the transition into the university environment, especially adjustment disorder symptoms. The findings showed that these emotional adjustment difficulties (specifically adjustment disorder symptoms) could negatively impact on first-year students' academic performance (students' marks). Consequently, the study calls for a first-year experience programme or approach that incorporates the awareness of emotional adjustment difficulties and their subsequent impact on the academic performance of first-year students. This could be done as part of orientation workshops and life skills programmes for first-year students.

In addition, the findings call for a model that goes beyond structural, familial and financial planning for the adjustment and academic success of first-year students in South African institutions of higher learning. Psychological/personal attributes and psychological coping resources should be considered and incorporated in the plans and programmes aimed at helping first-year students to emotionally adjust in institutions of higher learning, as well as perform well academically.

Another major finding of the current study is that mindfulness and not self-consciousness could be considered as a resource that would facilitate coping in first-year students. The findings point to the incorporation of mindfulness in programmes that are intended to enhance the first-year experience of students in terms of assisting with emotional adjustment (depression, anxiety and adjustment disorder symptoms) and academic performance (students' marks) in institutions of higher learning. The findings of the study could be interpreted as suggesting the need to explore the use of mindfulness in programmes in high school settings intended to prepare prospective students for their first-year experience in terms of emotional adjustment in institutions of higher learning environments.

The insight generated from this study could be used by student development practitioners to help prepare and assist first-year students with emotional adjustment difficulties during their transition into institutions of higher learning.

For example, through the development and delivery of life skills programmes, psycho education in various institutional settings (for example, student affairs programmes and health and wellness programmes), counseling services and support materials developed by practitioners in student development departments first-year students can be supported and enabled to be successful in their studies and life in general. The objectives of these programmes could include the following:

- Focusing on the changes that come with the transition from high school to institutions of higher learning for first-year students

- Focusing on raising awareness of emotional adjustment difficulties in first-year students and their subsequent impact on academic performance

- Focusing on the role and benefits of psychological coping resources during this transition

- Focusing on introducing mindfulness-based interventions and the benefits of mindfulness in facilitating coping with emotional adjustment for first-year students.

6.7 Recommendations for future research

The current study points to the value of future research, based on the following:

- Future studies could explore larger samples at other South African institutions of higher learning. Also, future studies could investigate if similar findings could be observed in the diverse first-year student populations found in South African institutions of higher learning (for example, first-generation students, students with disabilities, etc.).

- Future studies need to explore further the relationship between mindfulness and academic performance, as well as self-consciousness and academic performance, specifically the mediating effect of the adjustment variables.

- It is recommended that Schlossberg's theory of transition be used in future research and application as a theoretical framework for understanding first-year students' transition into institutions of higher learning.

- Future research could identify other adjustment difficulties – that is, other mental health issues experienced by first-year students in institutions of higher learning in South Africa and their impact on students' academic performance. The research could also explore other academic performance variables such as performance on class presentations.

- Future research has to give special attention to students' coping and other psychological resources that can facilitate coping during this transition, as well as their impact on adjustment and academic performance of first-year students.

6.8 Conclusion

As indicated in Chapter one, the first year of study at a tertiary institution, especially the first semester can prove to be the most critical adaptation time that can pose numerous adjustment difficulties for students (Clinciu, 2013). Also, these adjustment difficulties/challenges can affect students' academic performance and create barriers to students' success at a tertiary institution (Habayed & Abu Marak, 2009).

The findings of the study indicated that first-year students in South Africa tend to experience emotional adjustment difficulties, especially anxiety and adjustment disorder symptoms. Also, the findings provided empirical support for the relationship between first-year students' adjustment (specifically adjustment disorder symptoms) and academic performance. Moreover, the findings support the consideration of psychological coping resources in assisting first-year students in institutions of higher learning dealing with emotional adjustment difficulties during the transition to the university environment. Specifically, the findings provided empirical support for the value of self-awareness, especially mindfulness in assisting first-year students cope with emotional adjustment difficulties as this would subsequently have a positive impact on first-year students' academic performance.

Furthermore, the findings argue for the value of incorporating mindfulness in first-year programmes intended to increase first-year students' chances of success (adjustment and academic) – for example, first-year orientation programmes, life skills programmes and personal counseling programmes.

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APPENDIX A

CONSENT FORM

The impact of mindfulness and self-consciousness on adjustment and academic performance: A study of South African first year tertiary students.

SECTION A

Dear Participant

I am conducting research as part of my Doctoral studies at the University of Southern Africa on the above stated topic.

You are requested to participate in the research by completing a number of questionnaires. The completion of the questionnaires will take about an hour (depending on the participant's pace). The questionnaires will be used to gain knowledge and insight on the above stated topic. Please also note that due to the nature of the study the researcher will compare responses to academic performance during the year.

Please note that this information will not be used by the University in any manner- all the information is ONLY for research purposes and for this specific study.

Your rights as a participant:

- All information obtained will be held strictly confidential.
- Identification information obtained will be kept strictly confidential and will only be used for the purpose of this study.
- There are no other uses for the information obtained; all information obtained is for the purpose of this study, no people outside the study will have access to your individual results.
- Participation in this study is voluntary.
- You are free to withdraw from the study at any time should you wish to do so.
- All participants will be given relevant referral information to qualified psychologists should they be identified as at need for psychological intervention during the study.
- Contact details requested will only be used in cases where the researcher has identified the need for the participant to be referred for psychological services.

SECTION B

Please read the information below and provide your details:

I_____ (Name and Surname), hereby agree to participate in the research as per the above title.

I have read the above stated information (page one), I fully understand the purpose of the study and I agree to participate.

I am participating with the full understanding of my rights as a participant.

Date: _____

Signature: _____

Student No: _____

Contact details: _____

Thanking you for your participation,

Kind regards

Refilwe Setshedi

APPENDIX B

Please provide the following details about yourself:

Name of your tertiary institution:	
Name of your campus :	
Name of your course of study:	
Is this course your 1st choice?	Please tick one: 1. yes (_) 2. no
Which year of study are you on:	Please tick one: 1. First (_) 2. Other (please specify): _____
How old are you:	
What is your gender:	Please tick one: 1. Male (_) 2. female (_)
Where do you currently live:	Please tick one: 1. Campus residence, alone (_) 2. Campus residence, with other(s) (_) 3. Travel from home (_) 4. Private off campus, alone(_) 5. Private off campus, with other(s) (_) 6. Other (please explain) _____
Nationality:	Please tick one: 1. South African (_) 2. other (please specify) _____

Which province are you from:	1. Gauteng (_), 2. Limpopo(_), 3. Mpumalanga(_), 4. North West(_) 5. KZN(_), 6. N. Cape (_), 7. W. Cape(_), 8. E. Cape(_), 9. Free State(_)
Relationship status:	Please tick one: 1. Single (_) 2. Married (_) 3. Committed not living together (_) 4. Living together (_) 5. Separated (_) 6. Divorced (_) 7. Widowed (_)

APPENDIX C

The following statements are about your everyday experience. Please indicate with an (x) how frequently or infrequently you are currently experiencing each of them. Please choose one answer that best describes you currently.

Please treat each item separately from every other item.

Choose from the following:

1	2	3	4	5	6
Almost always	Very Frequently	Somewhat Frequently	Somewhat Infrequently	Very Infrequently	Almost Never

I could be experiencing some emotion and not be conscious of it until some time later	1	2	3	4	5	6
I break or spill things because of carelessness, not paying attention, or thinking of something else.	1	2	3	4	5	6
I find it difficult to stay focused on what's happening in the present.	1	2	3	4	5	6
I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.	1	2	3	4	5	6
I tend not to notice feelings of physical tension or discomfort until they really grab my attention.	1	2	3	4	5	6
I forget a person's name almost as soon as I've been told it for the first time.	1	2	3	4	5	6
It seems I am running on 'automatic pilot' without much awareness of what I'm doing.	1	2	3	4	5	6
I rush through activities without being really attentive to them.	1	2	3	4	5	6
I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there.	1	2	3	4	5	6
I do jobs or tasks automatically, without being aware of what I'm doing.	1	2	3	4	5	6
I find myself listening to someone with one ear, doing something else at the same time.	1	2	3	4	5	6

I drive places on 'automatic pilot' and then wonder why I went there.	**1**	**2**	**3**	**4**	**5**	**6**
I find myself preoccupied with the future or the past.	**1**	**2**	**3**	**4**	**5**	**6**
I find myself doing things without paying attention.	**1**	**2**	**3**	**4**	**5**	**6**
I snack without being aware that I'm eating.	**1**	**2**	**3**	**4**	**5**	**6**

Please indicate with an (x) on the answer sheet which of the following items is like you. Use the following response format:

3= a lot like me

2= somewhat like me

1= a little like me

0= not at all like me

1. I'm always trying to figure myself out.	**0**	**1**	**2**	**3**
2. I'm concerned about my style of doing things	**0**	**1**	**2**	**3**
3. It takes me time to overcome my shyness in new situations.	**0**	**1**	**2**	**3**
4. I reflect about myself a lot.	**0**	**1**	**2**	**3**
5. I'm concerned about the way I present myself.	**0**	**1**	**2**	**3**
6. I'm often the subject of my own fantasies.	**0**	**1**	**2**	**3**
7. I have trouble working when someone is watching me.	**0**	**1**	**2**	**3**
8. I never scrutinize myself.	**0**	**1**	**2**	**3**
9. I get embarrassed very easily.	**0**	**1**	**2**	**3**
10. I'm self-conscious about the way I look.	**0**	**1**	**2**	**3**
11. I don't find it hard to talk to strangers.	**0**	**1**	**2**	**3**
12. I'm generally attentive to my inner feelings.	**0**	**1**	**2**	**3**
13. I usually worry about making a good impression.	**0**	**1**	**2**	**3**
14. I'm constantly examining my motives.	**0**	**1**	**2**	**3**
15. I feel anxious when I speak in front of a group.	**0**	**1**	**2**	**3**
16. One of the last things that I do before I leave my house is to look in the mirror.	**0**	**1**	**2**	**3**
17. I sometimes have the feeling that I'm off somewhere watching myself.	**0**	**1**	**2**	**3**

18. I'm concerned about what other people think of me.	**0**	**1**	**2**	**3**
19. I'm alert of changes in my mood.	**0**	**1**	**2**	**3**
20. I'm usually aware of my appearances.	**0**	**1**	**2**	**3**
21. I'm aware of how my mind works when I work on a problem.	**0**	**1**	**2**	**3**
22. Large groups make me nervous.	**0**	**1**	**2**	**3**

Which of the following have you been experiencing in the past three months? Please answer yes **or** no for each of the following by making an (x) on your answer:

Section A

I feel sad	Yes	No
I feel hopelessness	Yes	No
I lack of enjoyment	Yes	No
I have crying spells	Yes	No
I feel nervousness	Yes	No
I feel anxious	Yes	No
I feel excessively worried	Yes	No
I feel desperate	Yes	No
I have trouble sleeping	Yes	No
I have difficulty concentrating	Yes	No
I feel overwhelmed	Yes	No
I have thoughts of suicide	Yes	No

Section B

I get involved in fights	Yes	No
I drive recklessly	Yes	No
I ignore important tasks (e.g. assignments)	Yes	No
I avoid family	Yes	No
I avoid friends	Yes	No
I am performing poorly in my studies	Yes	No
I am skipping school/ lectures	Yes	No
I vandalize property	Yes	No

Section C

Are the symptoms experienced due to loss of a loved one	Yes	No
All the above symptoms have started since I started with my studies	Yes	No
Is what you are experiencing more or excessive than what you expected to experience	Yes	No

Please choose only one response from 0 to 3 from each of the following 21 items. Please indicate your response by making a mark (x) on the number that best describes your current experience for each of the 21 items.

1.
0- I do not feel sad.
1- I feel sad
2- I am sad all the time and I can't snap out of it.
3- I am so sad and unhappy that I can't stand it.

2.
0- I am not particularly discouraged about the future.
1- I feel discouraged about the future.
2- I feel I have nothing to look forward to.
3- I feel the future is hopeless and that things cannot improve.

3.
0 I do not feel like a failure.
1- I feel I have failed more than the average person.
2- As I look back on my life, all I can see is a lot of failures.
3 -I feel I am a complete failure as a person.

4.
0- I get as much satisfaction out of things as I used to.
1- I don't enjoy things the way I used to.
2- I don't get real satisfaction out of anything anymore.
3- I am dissatisfied or bored with everything.

5.
0- I don't feel particularly guilty
1- I feel guilty a good part of the time.
2- I feel quite guilty most of the time.
3 -I feel guilty all of the time.

6.
0- I don't feel I am being punished.
1- I feel I may be punished.
2- I expect to be punished.
3 -I feel I am being punished.

7.
0- I don't feel disappointed in myself.
1- I am disappointed in myself.
2- I am disgusted with myself.
3- I hate myself.

8.

0- I don't feel I am any worse than anybody else.
1- I am critical of myself for my weaknesses or mistakes.
2- I blame myself all the time for my faults.
3- I blame myself for everything bad that happens.

9.

0- I don't have any thoughts of killing myself.
1- I have thoughts of killing myself, but I would not carry them out.
2- I would like to kill myself.
3- I would kill myself if I had the chance.

10.

0- I don't cry any more than usual.
1- I cry more now than I used to.
2- I cry all the time now.
3- I used to be able to cry, but now I can't cry even though I want to.

11.

0 -I am no more irritated by things than I ever was.
1- I am slightly more irritated now than usual
2- I am quite annoyed or irritated a good deal of the time
3- I feel irritated all the time

12.

0 -I have not lost interest in other people.
1- I am less interested in other people than I used to be.
2- I have lost most of my interest in other people.
3- I have lost all of my interest in other people.

13.

0- I make decisions about as well as I ever could.
1 -I put off making decisions more than I used to.
2- I have greater difficulty in making decisions more than I used to.
3 -I can't make decisions at all anymore.

14.

0 -I don't feel that I look any worse than I used to.
1- I am worried that I am looking old or unattractive.
2 -I feel there are permanent changes in my appearance that make me look unattractive.
3- I believe that I look ugly.

15.

0- I can work about as well as before.
1-It takes an extra effort to get started at doing something.
2- I have to push myself very hard to do anything.
3 -I can't do any work at all.

16.

0 -I can sleep as well as usual.

1 -I don't sleep as well as I used to.

2 -I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.

3- I wake up several hours earlier than I used to and cannot get back to sleep.

17.

0 -I don't get more tired than usual.

1 -I get tired more easily than I used to.

2- I get tired from doing almost anything.

3 -I am too tired to do anything.

18.

0 -My appetite is no worse than usual.

1 -My appetite is not as good as it used to be.

2- My appetite is much worse now.

3 -I have no appetite at all anymore.

19.

0- I haven't lost much weight, if any, lately.

1 -I have lost more than five pounds (approximately 2.5 kg).

2- I have lost more than ten pounds (approximately 4.5 kg)

3- I have lost more than fifteen pounds (approximately 6.8 kg).

20.

0 -I am no more worried about my health than usual.

1 -I am worried about physical problems like aches, pains, upset stomach, or constipation.

2 -I am very worried about physical problems and it's hard to think of much else.

3 -I am so worried about my physical problems that I cannot think of anything else.

21.

0 -I have not noticed any recent change in my interest in sex.

1- I am less interested in sex than I used to be.

2- I have almost no interest in sex.

3 -I have lost interest in sex completely.

Please carefully read each item in the list. Indicate how much you have been bothered by that symptom during the past month, including today, by circling the number in the corresponding space in the column next to each symptom.

	Not At All	Mildly but it didn't bother me much	Moderately – it wasn't pleasant at times	Severely – it bothered me a lot
Numbness or tingling	0	1	2	3
Feeling hot	0	1	2	3
Wobbliness in legs	0	1	2	3
Unable to relax	0	1	2	3
Fear of worst happening	0	1	2	3
Dizzy or lightheaded	0	1	2	3
Heart pounding/racing	0	1	2	3
Unsteady	0	1	2	3
Terrified or afraid	0	1	2	3
Nervous	0	1	2	3
Feeling of choking	0	1	2	3
Hands trembling	0	1	2	3
Shaky / unsteady	0	1	2	3
Fear of losing control	0	1	2	3
Difficulty in breathing	0	1	2	3
Fear of dying	0	1	2	3
Scared	0	1	2	3
Indigestion	0	1	2	3

Faint / lightheaded	**0**	**1**	**2**	**3**
Face flushed	**0**	**1**	**2**	**3**
Hot/cold sweats	**0**	**1**	**2**	**3**