

**The relationship between procrastination and academic
achievement of high school learners in North West province,
South Africa**

by

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Abstract

The present study explored whether a significant relationship exists between academic procrastination and academic achievement in high school learners within South Africa. It furthermore examined whether certain personality traits of individuals are more prone to procrastination than others. It lastly investigated the relationships between gender and academic procrastination, age and academic procrastination, number of siblings and academic procrastination; and area of residence and academic procrastination. The research sample consisted of 349 high school learners aged between 12 and 19 years old (n=167 male, n=180 female, n=2 gender not disclosed). Data was collected by means of the Personal Information Questionnaire (PIQ), the Tuckman Procrastination Scale (TPS) and the Ten-Item Personality Inventory (TIPI). A significant negative correlation was found between procrastination and academic achievement. The correlations between procrastination and gender, age, area of residence and number of siblings respectively were not significant. Conscientiousness and Emotional Stability were both found to be significantly negatively related to procrastination, however, the relations between procrastination and Extraversion and Agreeableness respectively were not significant. An anomaly found in the present study was the negative relation between procrastination and Openness to Experience, and it is postulated that this finding may be due to the TIPI's inability to measure the individual facets of each Big Five Factor domain or that it could be ascribed to the need for cognition.

Keywords: academic achievement, Big-Five, personality, procrastination, traits

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Chapter 1

Introduction

1.1 Background

Procrastination is described by Steel (2007, p. 66) as “to voluntarily delay an intended course of action despite expecting to be worse off for the delay”. As proposed by Schraw, Olafson and Wadkins (2007) behaviour must be needless, delaying and counterproductive to be regarded as procrastination. Andreou (2007), Simpson and Pychyl (2009) and Steel (2007) regard procrastination as an irrational delay, whereas recent studies, by using rational choice models find that what might appear to be irrational on the surface can be a predictable behaviour (Zarick & Stonebraker, 2009). Within a rational choice framework, procrastination is not an irrational personality trait; it is a logical, although potentially inefficient, behaviour driven by a reasoned comparison of perceived costs and benefits (Zarick & Stonebraker, 2009).

Steel (2007, p. 3) observed impulsiveness to be one of the traits most strongly associated with procrastination, “on average obtaining a disattenuated correlation of .52”. He found insufficient support for the arousal, avoidance and decisional model of procrastination (Ferrari, 1992b), indicating that procrastination is predominantly rather considered an irrational delay (Steel, 2010).

Lay (1986) describes procrastination as the frequent failure to do what needs to be done in order to reach goals, whereas Ferrari and Tice (2000) describes it as a self-regulation style that involves delay in the start and/or completion of a task. A procrastinator is described by Popoola (2005) as someone who knows what to do, how to do it, tries to do it, but still does not do it.

The current study will be looking into academic procrastination specifically. Academic procrastination has been described as postponing primary academic tasks such as

studying for examinations (Solomon & Rothblum, 1984). Zeenath and Orcullo (2012) found that university students engage in academic procrastination because of the personal characteristics of the student as well as other factors such as lecturer teaching style, time management issues, lack of motivation and peer influence. Noran (2000) explains that students would much rather pursue recreational activities such as going to watch films or spending time with friends, than to do something that needs to be done, like study for an upcoming examination.

Procrastination has a cognitive, behavioural as well as emotional component (Popoola, 2005). According to a number of studies, as motivation levels of the individual decreases a tendency for procrastination increases (Balkis, 2006; Klassen, Krawchuk, & Rajani, 2008; Lee, 2005; Lekich, 2006; Orpen, 1998; Rakes & Dunn 2010; Senecal, Koestner, & Vallerand, 1995).

It is evident that all conceptualisations of procrastination recognise that there must be postponing, delaying, or putting off of a task or decision, in keeping with the term's Latin origins of *pro*, meaning "forward, forth, or in favour of" and *crastinus*, meaning "of tomorrow" (Klein, 1971).

1.2 Research aims

The proposed research study will aim to find whether a significant relationship exists between academic procrastination and academic achievement in high school learners within South Africa. Secondly, the research will investigate whether certain personality traits of individuals are linked to proneness to procrastination. Lastly, to be investigated are the relationships between gender and academic procrastination, age and academic procrastination, number of siblings and academic procrastination; and area of residence and academic procrastination.

1.3 Rationale of the research

Numerous problems appear to be associated with procrastination. Concerns from environmental to personal health are put off, and allowed to compound with time (Gallagher, 2008; Sirois, 2007). Critchfield and Kollins (2001) and Ainslie (2005) found several societal problems such as substance abuse to be related to procrastination; procrastination could also result in unhealthy habits when it comes to sleep, diet and exercise (Sirois & Pychyl, 2002); Steel (2007) discovered that procrastination weakens confidence among students as well as their expectancy of completing a task; procrastination creates anxiety and affects achievement of goals (Scher & Nelson, 2002); Hussain and Sultan (2010) found procrastination to cause higher stress, low self-esteem, depression, plagiarism, higher use of alcohol, cigarettes and caffeine and to decrease ability to maintain healthy self-care habits like exercise and eating; and Adkins and Parker (1996) observed procrastination to yield higher rates of insomnia and cold and flu symptoms. Procrastination is therefore foreseeably becoming of interest to numerous fields such as public policy and behavioural economics (Thaler & Sunstein, 2008; Lynch & Zauberman, 2006).

Different primary and secondary problems have been found to be associated with academic procrastination, e.g. low achievement of students and their increased physical and psychological problems (Brownlow & Reasinger, 2000), anxiety (Lay, 1995; Onwuegbuzie 2004), confusion and irresponsibility (Hussain & Sultan, 2010). Hussain and Sultan (2010) argued procrastination to be promoted by longer timelines of completing a task, plenty of leisure time and co-curricular activities. Steel (2008) pointed out that procrastination effects the self-efficacy and self-actualisation, distractibility, impulsiveness, self-control and organisational behaviour levels of the student. Zeenath and Orcullo (2012) found that procrastination resulted not only in poor academic performance, but it also negatively impacted on the health and well-being of students.

Procrastination is a phenomenon very common especially in university students, who have frequent deadlines for registration and submissions (Akinsola, Tella, & Tella, 2007; Milgram, Batin, & Mower, 1993; Popoola, 2005). Bridges and Roig (1997) found that when the irrational thinking rate of undergraduates increases their academic procrastination also increases. The lower self-esteem an undergraduate has, the more academic procrastination he/she has (Klassen et. al., 2008; Tuckman, 1990).

According to Bijou, Morris and Parson (1976) students who procrastinate have a history of procrastination, leading to the deduction that high school procrastinators will continue procrastinating into university. Academic procrastination is common among students, and they tend to wait until the last minute to start studying for examinations or start working on assignments or projects (Milgram et al., 1993). According to Zarick and Stonebraker (2009) 73 percent of the students in their study were less likely to procrastinate in classes that they enjoyed while only nine percent were more likely to procrastinate.

Quite a number of studies (e.g. Akinsola et al., 2007; Lee, 2005; Roig & DeTomasso, 1995) have been done on university students' procrastination habits, but a far lesser number on high school students' procrastination habits, which is the population this study focuses upon. An important aspect to consider is that procrastination may negatively affect students' grades. There are, however, contradictory results for examining the relationship between student academic performance and academic procrastination.

Several studies (e.g. Ferrari & Scher, 2000; Hill, Hill, Chabot, & Barrall, 1978; Rothblum, Solomon, & Murakami, 1986; Schiming, 2012; Senecal et al., 1995; Tuckman, 1998) demonstrated that high levels of procrastination are associated with lower academic performance, while other studies (e.g. Pychyl, Lee, Thibodeau, & Blunt, 2000) found no significant difference in grades or test results between academic procrastinators and non-procrastinators. Zarick and Stonebraker (2009) confirmed the former finding when they

compared students with high average grades to those with lower average grades and found that students with lower average grades were significantly more likely to report lower quality work, late assignments, or lower scores due to procrastination. According to Zarick and Stonebraker (2009) students with lower average grades may take their classes less seriously and, therefore, see less cost to procrastination. They may also be more likely to suffer from task aversion and a fear of failure when faced with the need to study or complete assignments (Orpen, 1998).

Procrastination is not always seen in a negative light though, as shown by Schraw, et al. (2007) who found that many students planned to procrastinate and felt that they were more effective and creative in their work while being under pressure at the last minute. These students expressed pride at their ability to produce under pressure and praised procrastination as the most efficient approach to learning. Ozer and Sackes (2010) explained that procrastination has the underlying idea that 'later is better' which is also a common illusion behind a 'tomorrow outlook'. The pattern resurfaces when tomorrow comes, however, and the 'I will do it tomorrow' promise is made again. Hence, procrastination is seen as a 'tomorrow syndrome' (Knaus, 2002). Rosario, Costa, Nunez, Gonzalez-Pienda, Solano, and Valle (2009) believe that although procrastination might happen in all daily activities, procrastination in doing school assignment is more frequent.

Rothblum et al. (1986) suggested two distinct reasons for procrastination, fear of failure and task aversion. Ozer and Sackes (2010) described fear of failure as incorporating concerns about meeting other people's expectations, meeting perfectionistic standards and lacking self-confidence. Students engage in task aversion when presented with boring or overwhelming tasks, according to Ferrari, Johnson and McCown (1995). Ozer and Sackes (2010) suggested a third reason for academic procrastination, which is that it has been done successfully before. Generally, university students look back on several years of high school

in which they have done consistently well despite constantly procrastinating (Ozer & Sackes, 2010).

The growing body of literature has demonstrated procrastination as a personality characteristic far more than mere time management (Ferrari, Johnson, & McCown, 1995). Procrastination is said to be a personality trait intended to put off an existing task – an irrational delay (Burka & Yuen, 2008; Ellis & Knaus, 1977). If this is in fact the case, then we should see certain personality types being more prone to procrastination than others. Personality is expressed early in both humans and other animal species (John, Robins, & Pervin, 2008), and is stable during adulthood (Caspi & Roberts, 2001; Hampson & Goldberg, 2006; Terracciano, McCrae, & Costa, 2010).

1.4 Context of the research

The Big Five traits capture the main dimensions of individual variation (e.g. John, Naumann, & Soto, 2008; McCrae & Costa, 2008). Gallego and Pardos-Prado (2014), briefly, explains the five traits as follows. Extraversion, describing an energetic approach toward the world (Gallego & Pardos-Prada, 2014). Agreeableness, describing a pro-social and communal orientation as opposed to antagonism (Gallego & Pardos-Prada, 2014). Conscientiousness, implying a high level of control over tasks and goals (Gallego & Pardos-Prada, 2014). Neuroticism, being associated with anxiety and irritability for example (Gallego & Pardos-Prada, 2014). And lastly, Openness to Experience, being related to creativity, curiosity, intellectuality, independent-mindedness and so forth (Gallego & Pardos-Prada, 2014). The same five factors emerge in very different cultures and languages (Allik & McCrae, 2004; Heine & Buchtel, 2009; Schmitt, Allik, McCrae, & Benet-Martinez, 2007) suggesting that they capture a human universal.

Zeenath and Orcullo (2012) reported that students in their study tended to perceive that they possessed certain characteristics leading them to repeatedly engage in behaviours of

procrastination, and that it was an inborn habit. In previous research, several claims have been made with respect to the personality of those who report procrastination: first, they are low on Conscientiousness, and second, high on neuroticism. In one study, Van Eerde (2002) found that the largest average effect size was found for Conscientiousness ($r = -.63$), but neuroticism, however, showed an effect size of only moderate magnitude. Milgram, Sroloff and Rosenbaum (1988) found a relationship between procrastination and the personality correlates only with men. They concluded that this may be due to attitudinal differences toward the routine activities included in the procrastination scale.

Jadidi, Mohammadkhani and Tajrishi (2011) found a significant positive correlation between academic procrastination and perfectionism. Flett, Stainton, Hewitt, Sherry and Lay (2012) established procrastination and perfectionism to be both similar and different when assessed as automatic thoughts. Both are associated with neuroticism (Flett, Hewitt, Blankstein, & Gray, 1998) but only procrastination is associated significantly with low Conscientiousness, a finding concurring with meta-analytic results of the five factor correlates of trait procrastination (Steel, 2007; Van Eerde, 2003).

There seems to be less research about the relationship between procrastination and certain demographic variables, and therefore another aim of the current study was to determine whether a relationship exists between procrastination and demographic variables such as age, gender, family size and rural/urban residence.

In terms of (university) student age, Hill, Hill, Chabot and Barrall (1978) found that older students are more prone to procrastinate, whereas Prohaska et. al. (2000) and Schiming (2012) found that older students reported less procrastination. Haycock, McCarthy and Skay (1998) have not determined a significant relationship between age and procrastination in their research. Hussain and Sultan (2010) argued that procrastination may not be confined to any of the stages of human growth and/or age-specific phenomenon rather found more or less in

all individuals, whereas according to Yaakub (2000) procrastination and increase in age have a closer relationship. Van Eerde (2003) found that age was negatively related to procrastination (the study had ages ranging between 16 and 43) and Owens and Newbegin (1997) found older female high school learners to have more anxiety problems and lower self-esteem than younger learners.

Different results have been obtained concerning the relationship between procrastination and gender (different findings e.g. in Ferrari & Emmons, 1995; Senecal, Julien, & Guay, 2003; Solomon & Rothblum, 1984). Brownlow and Reasinger (2000), Prohaska, Morrill, Atilas and Perez (2000), Reasinger and Brownlee (1966) and Ozer and Sackes (2010) all found that women procrastinate less than men, while Owens and Newbegin (2000), Zarick and Stonebraker (2009) and Iskender (2011) found no significant difference in the degree of academic procrastination between men and women. Zarick and Stonebraker (2009) did, however, find that males are significantly more likely to turn assignments in late as a result of procrastination, but they found no significant male-female differences in terms of lower paper quality or exam scores. In their study on high school students, Motie, Heidari and Sadeghi (2012) found no significant difference between male and female participants in terms of academic procrastination; however, this difference was seen in some self-regulation elements. Akinsola et al. (2007) found equal levels of academic procrastination in the subject of mathematics among male and female university students in Nigeria.

Procrastination may be associated with poor family relations and disrupted or dissatisfying social relationships (Ferrari, Harriott, & Zimmerman, 1999; Ferrari & Patel, 2004). Black, Devereux and Salvanes (2005) found evidence that there is little if any family size effect on child education, and the proposed study investigated whether family size has any effect on the academic procrastination of learners, as family size (more specifically number of siblings) contributes to better understand academic procrastination, as proposed by

Rosário et al. (2009). Furthermore, the study aimed to find whether a significant relationship exists between academic procrastination and place of residence (urban/rural).

In sum, the term *procrastinate* comes from the Latin word *procrastinare* and means to put off, delay, prolong, defer, stall, or postpone performing a task (Jadidi, Mohammadkhani, & Tajrishi, 2011). The proposed study focused on academic procrastination, which is when high school learners choose to put off work or studying that needs to be done. The study aimed to find whether a relationship exists between academic procrastination and academic achievement in high school learners, whether certain personality types of individuals are more prone to procrastination than others and whether a relationship exists between procrastination and each of the following: gender, age, family size and area of residence. The study was carried out in three private high schools in the North-West province, South Africa. The sample consisted of 349 high school learners between ages 12 and 19 years, and the data was gathered through use of a Personal Information Questionnaire, the Tuckman Procrastination Scale (Tuckman, 1991) and the Ten-Item Personality Inventory (Gosling, Rentfrow & Swann, 2003).

A theoretical framework will be explored next, paying attention to antecedents and effects of procrastination as well as the relationships between procrastination and gender, age, area of residence, number of siblings, and certain personality traits respectively. Thereafter, the methodology will be explained with reference to research aims, design, sampling, ethical considerations as well as data collection and data analysis procedures. Results will then be indicated as well as anomalies found in the study. Conclusions, limitations and recommendations will lastly be discussed.

Chapter 2

Theoretical framework

2.1 Introduction to procrastination

Sigmund Freud's psychoanalytic theory of personality explained the pleasure principle as the habitual seeking of immediate pleasure (gratification) and avoiding of pain (Snyder & Lopez, 2007). The explanation for procrastinatory behaviour may, however, not be this simple.

Procrastination is an emotionally rooted, multifaceted construct (Abramowski, 2014), described by Scher and Osterman (2002, p. 385) as "a substantial hindrance to academic success". Rothblum, Solomon and Rumakami (1986) defined academic procrastination as the tendency to put off certain tasks until the very last minute, and they explained that this behaviour causes anxiety within the procrastinator. Academic procrastination is further defined as the delaying or postponing of responsibilities related to school life (Haycock, McCarthy, & Skay, 1998), such as not completing assignments on time or delaying preparation for examinations (Beck, Koons, & Milgrim, 2000). According to Senecal et al. (1995), Tice and Baumeister (1997), van Eerde (2003) and Wolters (2003) academic procrastination is the continuing failure to timeously complete academic tasks.

Procrastinators are, according to Sigall, Kruglanski and Fyock (2000), unrealistically optimistic about a task because of distorted expectations of the task and the time needed to complete it. Burka and Yuen (2008, p. 2) also claimed that procrastinators have a "wishful thinking" approach to time which brings on even more procrastination. This notion supports the planning fallacy, which refers to the common propensity to underestimate the time needed to complete a certain task (Buehler, Griffin, & Peetz, 2010; Kahneman & Tversky, 1979).

In Canada Pychyl, Morin and Salmon (2000) studied the relationship between the planning fallacy and procrastination among college students, but found no difference between

procrastinators and non-procrastinators' accuracy in estimating the time they would need to complete an assignment. They did however find procrastinators to study less and to start studying later than non-procrastinators.

Procrastination has furthermore been typified as the discrepancy between intent and behaviour (Lay, 1994), and procrastinatory behaviour increases as this discrepancy increases (Schraw et al., 2007). Senecal et al. (1995) described procrastination as the universal weakness of people, and argued that procrastination is especially evident in the academic domain.

According to Van Eerde (2000, p. 375) procrastination is a “motivational mechanism, serving the purpose of avoiding a threat temporarily, in order to protect one’s well-being in the short term”, a view tying in with Freud’s pleasure seeking principal. An action is thus postponed when the threat is dealt with by avoiding it, and procrastination subsequently occurs.

Procrastination has been studied in everyday life, job environment and mainly in academic settings (Lay, 1986), and the primary reason for engaging in procrastination seems to be fear of failure and avoidance of aversive tasks (de Bruin & Rudnick, 2007). Day, Mensink and O’Sullivan (2000) reported that procrastinatory behaviour remains universally present, to some degree.

Procrastination has been found to start in secondary school and to be persistent throughout university, with more than 50% of the students reporting a steady delay causing problems (Steel, 2007). According to McGhie (2012) a lack of proper planning and time management could result in procrastination, late or non-submission of assignments and not being qualified for examination admission. Two of the students in McGhie’s (2012) study linked procrastination to time management.

According to Solomon and Rothblum (1984) nearly 25% of Caucasian-American college students have problems with procrastination on everyday academic tasks such as studying for tests and examinations or completing assignments. In the sample they studied, Clark and Hill (1994) further found that between 30% and 45% of African-American undergraduate students also reported problems with procrastination on similar academic tasks. Moreover, between 55% and 60% of the students wanted to decrease their procrastination on these tasks. Onwuegbuzie (2004) reported that approximately 40-60% of students consistently struggle with academic procrastination and Ellis and Knaus (1977) found this figure to be between 80% and 95%. Ferrari, Johnson and McCown (1995) supported this finding by reporting academic procrastination to be as high as 95%. Distressingly, Aitken (1982) reported that almost 25% of the adolescent individuals that they interviewed, considered procrastination to be a problem implying early onset of the construct.

Academic procrastination has been found to be associated with numerous negative academic outcomes like missing deadlines for submitting assignments, delaying studying for tests and examinations and obtaining low grades (Beswick, Rothblum, & Mann, 1988; Semb, Glick, & Spencer, 1979). It has also been associated with negative psychological and physiological outcomes, such as depression, low self-esteem, anxiety, guilt and stress (Pychyl, Lee, Thibodeau & Blunt, 2000; Tice & Baumeister, 1997). Being poorly prepared for tests and examinations, increased test anxiety and lower grades are thus merely a few of the negative consequences of academic procrastination (Ferrari & Beck, 1998; Fritzsche, Young, & Hickson, 2003; Johnson & Bloom, 1995; Roig & DeTomasso, 1995).

Owens and Newbegin (2000) established that adolescents procrastinating in English or Mathematics show significantly lower self-esteem than those who do not procrastinate in these domains.

According to Milgram and Toubiana (1999) test anxiety led to greater levels of procrastination, and their study led them to conclude that adolescents attribute procrastination to lack of self-regulation behaviours, like time management issues. Klassen et al. (2009) further established that adolescents who believe they can regulate their learning, report lower levels of procrastination in diverse cultural settings, and that adolescents' self-efficacy to self-regulate is inversely related to procrastination.

Dryden (2000) described procrastination as not doing work and tasks today, which are better done today than tomorrow. According to Dryden (2000) among the most typical and frequent incidents of procrastination are individuals' postponing their duties and responsibilities and furthermore not being able to begin a work with the aim of completing it. Lindt, Corkin and Yu (2014) did a study on 14 ethnically diverse students in a public university in America, as part of a larger research study comprising a total of 206 participants. The researchers found several students admitting to delay their studying until a few days or hours before the deadline, yet only some of these students admitted to doing so intentionally.

Quite a bit of attention has been given to university students' procrastination habits (e.g. Akinsola et. al., 2007; Lee, 2005; Roig & DeTomasso, 1995), with findings that academic procrastination is related to low levels of self-regulation, academic self-efficacy, and self-esteem, and associated with high levels of anxiety, stress, and stress-related illness (Howell, Watson, Powell, & Buro, 2006; Sirois, 2004; Tice & Baumeister, 1997). However, not many research studies have investigated high school learners' procrastination habits, which is one of the aims of the current study.

An increased understanding of the antecedents and effects of high school learners' academic procrastination tendencies will help to identify the proper approaches and strategies to overcome the debilitating aspects of the behaviour.

2.2 Antecedents of procrastination

Literature has revealed a number of possible antecedents for procrastination. Senecal et al. (1995, p. 608) noted that “procrastination is a motivational problem that involves more than poor time management skills or trait laziness”.

According to Ellis and Knaus (1977) for example, procrastination results from three basic and often overlapping causes, namely self-downing (negative self-talk), low frustration tolerance and hostility. Also, some researchers suggested lack of motivation, poor time management, and feeling overwhelmed (Burka & Yuen, 2008; Milgram, Marshevsky, & Sadeh, 1995; Solomon & Rothblum, 1984) as further causes for procrastination.

Ferrari (1992) and Martin, Flett, Hewitt, Krames and Szanto (1996) found that procrastination is positively related to perfectionism and Haycock et. al. (1998) identified low self-efficacy and high anxiety to be significant predictors of procrastination in everyday activities. With regard to personality traits, procrastination is positively correlated with neuroticism and has a significant negative correlation with Conscientiousness (Johnson & Bloom, 1995; Lay, Kovacs, & Danto, 1998; Milgram & Tenne, 2000; Schouwenburg & Lay, 1995).

According to Solomon and Rothblum (1984) fear of failure is the main reason for procrastination. Further research consistently found trait anxiety, depression and low self-esteem to be closely related to academic procrastination (Beswick et al., 1988; Rothblum et al., 1986; Schraw et al., 2007; Solomon & Rothblum, 1984). Anxiety, depression and low self-esteem can be seen as factors reflecting fear of failure, according to Senecal et al. (1995).

Consistent with certain features of procrastination namely irrationality and the discrepancy between intent and behaviour, self-regulation is identified by Senecal et al. (1995) as another reason for academic procrastination and it refers to how individuals utilise “internal and external cues to determine when to initiate, when to maintain, and when to

terminate their goal-directed actions” (p. 609). Zimmerman (2000) further described self-regulation as self-regulated thoughts and behaviours oriented toward the accomplishment of personal goals. This means that the way students regulate their academic behaviour is associated with the extent to which they procrastinate. Poor self-regulators often experience fear of failure and anxiety (Pintrich, 2000; Zimmerman, 2002).

Apart from fear of failure, Schraw et al. (2007) and Senecal et al. (1995) also identified low self-efficacy and low self-competence as possible antecedents for procrastination. Procrastination is thus a high possibility for a person who is not confident in their own abilities and who is, moreover, afraid of failing at successfully completing a certain task. The procrastinator hereby creates the opportunity to blame possible failure on lack of effort instead of lack of ability, and at the same time anxiety related to the said task is postponed (Williams, Stark, & Foster, 2008).

Balkis (2006) argued that procrastination is caused by poor time management, inability to concentrate on work, fear and anxiety related to failure, and negative beliefs about one’s capabilities and that unrealistic expectations and perfectionism (see also - Ferrari, 1992; Martin, Flett, Hewitt, Krames and Szanto, 1996; Schraw et al., 2007; Senécal et al., 1995) could be additional hindrances.

Senécal et al. (1995) found that students who pursue their studies because of intrinsic reasons are less likely to procrastinate as opposed to those who pursue them because of extrinsic reasons. They further established that students who are amotivated in the regulation of their academic behaviour, are more likely to procrastinate. Behaviours engaged in for personal sake are referred to as intrinsically motivated behaviours (Deci, 1971), whereas extrinsically motivated behaviours refer to those behaviours engaged in not only for its own sake but rather towards a goal extending beyond those inherent to the activity itself (Deci, 1975; Kruglanski, 1978). Amotivated behaviours, introduced by Deci and Ryan (1985), are

neither intrinsically nor extrinsically motivated, they are nonmotivated. “There are no rewards (intrinsic or extrinsic) and participation in the activity will eventually cease” (Vallerand & Bissonnette, 1992, p. 602).

According to Burka and Yuen (2008) the two broad reasons for procrastination are fear of success and fear of failure. They explained a number of common reasons for avoiding success such as the belief that success demands too much, that success is dangerous, or that success is off-limits (Burka & Yuen, 2008). The fact that working towards success demands a lot of effort, dedication and time, could discourage some people who may believe that they are not up to the task (such as success demands too much). Secondly, many procrastinators expect to be criticised or punished for having the desire to succeed, and they also feel that they have to contend with possible awry relationships stemming from the said success (such as success is dangerous). Lastly, some procrastinators may believe that they are fundamentally flawed, a construction so profound that it prohibits any real success or fulfilment in their lives (such as success is off-limits). Regarding fear of failure, Burka and Yuen (2008) focussed mainly on perfectionism. They argued that procrastinators are often perfectionists striving for impossible goals which according to these procrastinators are very easily reachable.

Although a number of researches support the notion that procrastination is positively related to perfectionism (Burka & Yuen, 2008; Ferrari, 1992; Martin, Flett, Hewitt, Krames and Szanto, 1996; Schraw et al., 2007; Senécal et al., 1995) there are also those offering little or no support for the connection between the two constructs (Johnson & Slaney, 1992; Muszynski & Akamatsu, 1991; Schouwenberg, 1992) and furthermore the research done by Busko (1998) who reported a negative correlation between the two. Busko (1998) did, however, only focus on self-oriented perfectionism, neglecting socially prescribed perfectionism and other-oriented perfectionism, the other two dimensions of perfectionism as

suggested by Hewitt and Flett (1991). Research focusing only on one of the three dimensions may provide inconsistent findings with respect to the relation between perfectionism and procrastination.

2.3 Effects of procrastination

2.3.1 *Negative effects of procrastination*

Hen and Goroshit (2012) regarded academic procrastination as an impediment to students' academic success, as did Beswick et al. (1988) and Busko (1998). According to Senecal et al. (1995) procrastination is significantly negatively correlated with academic achievement ($r = -.41, p < .01$). Interestingly, Busko (1998) found self-oriented perfectionism to be positively related to academic achievement, and negatively related to academic procrastination. We may therefore argue that academic procrastination would hinder academic achievement, a notion supported by McCloskey's (2011) finding in the U.S.A. that procrastination is significantly negatively related to semester grade point average (GPA).

McGhie (2012) concluded that not managing one's time effectively and giving in to procrastination will result in students experiencing the workload as challenging. Academic procrastination specifically, has been positively and significantly related to many educational and personal variables, such as: low Conscientiousness (MacCann, Duckworth, & Roberts, 2009); lack of positive self-image, self-esteem and self-efficacy during the learning process (Klassen et. al., 2009; Hen & Goroshit, 2012); impulsiveness, laziness and lack of discipline when learning (Schouwenburg & Lay, 1995); lack of motivation to learn (Brownlow & Reasinger, 2000; Lee, 2005) and disagreement with academic conditions (Ackerman & Gross, 2005, 2007); lower levels of self-regulated learning (Hen & Goroshit, 2012); high levels of anxiety, stress and illness (Cassady & Johnson, 2002; Chabaud, Ferrand, & Maury, 2010; Hen & Goroshit, 2012); feelings of weakness and ineffectiveness (Surowiecki, 2010);

use of irrational beliefs strategies (Walker & Stewart, 2000); and perhaps most importantly, poor academic performance (Carden, Bryant, & Moss, 2004; Clariana, Gotzens, Badia & Cladellas, 2012; Ferrari et al., 1995; Steel 2007; Wang & Englander, 2010) both in secondary school (Sub & Prabha, 2003) and university (Clariana, Gotzens, & Badia, 2011).

When a certain task is avoided, the distraction created to do so may not cause the avoided task to disappear completely from the procrastinator's mind, and it may resurface frequently causing internal negative consequences (Wegner, 1994). Uncontrolled thinking about the avoided task is continuously produced, causing anxiety.

Personal life satisfaction is oppositely related to procrastination, but in a more general way than time-related factors (Milgram et al., 1988). According to Burka and Yuen (2008) procrastination can potentially be troublesome and they identified two types of consequences thereof, namely internal and external. They described internal consequences as feelings ranging from mere irritation to utter despair, and external consequences as ranging from small penalties to major setbacks in school, at home, at work etc. (Burka and Yuen, 2008).

Van Eerde (2000) identified three different types of behaviour caused by procrastination, namely task performance (deadlines may not be met or work may not be of best quality due to time constraints), extra-role behaviour (work or academic goals may be avoided and personal goals used as distractors) and social interaction (procrastination may affect others as well, like having to wait or having to constantly remind the procrastinator of deadlines).

2.3.2 Positive effects of procrastination

It is important to note though that procrastination is not always regarded as a negative behaviour. Chu and Choi (2005) for example, distinguished between "passive procrastinators" and "active procrastinators". They explained the difference as procrastinating in the traditional sense, with no shown intention to postpone a task (passive)

versus deliberately procrastinating for strategic time management (active). This suggests that procrastination could be a deliberate action with an expected result rather than a negatively influenced behaviour (Demeter & Davis, 2013). Choi and Moran (2009) reported that active procrastinators are efficient in time management and pleased with their outcomes.

Chu and Choi's (2005) distinction between active and passive procrastinators alludes to the two types of procrastinating behaviours identified by Solomon and Rothblum (1984) namely "tensed" and "relaxed". The tensed type of procrastinator tends to postpone tasks due to unrealistic time-frame expectations (Tamiru, 2008), hinting at active procrastination, whereas the relaxed type of procrastinator tends to dismiss more challenging tasks to avoid stress (Tamiru, 2008), hinting at passive procrastination.

Demeter and Davis (2013) found procrastination frequency to be significantly correlated to overall grade outcome, suggesting that students still performed satisfactorily in academic tests despite frequent procrastination. This outcome is contradictory to previous research (e.g. Clariana et al., 2011; Sub & Prabha, 2003), and the current study will further explore this discrepancy. Demeter and Davis (2013) did however find procrastination frequency not to be significantly correlated to academic task completion.

Importantly not all forms of procrastination should be classed as shameful wrongdoing, according to Abramowski (2014), who argued that "some forms of creative procrastination can lead to inspiration and innovation" (pp. 180) and that "some forms can be adaptive and productive in terms of outcome" (pp. 181).

Tice and Baumeister (1997) mentioned that procrastination may increase performance in that the fast approaching deadline creates exhilaration and pressure that prompt optimal performance, and Flett, Blankstein and Martin (1995) furthermore found a positive correlation between procrastination and coping with stress. According to Covington (1993) academic procrastination is a coping mechanism for managing academic stress, a viewpoint

clearly in contrast with those of Cassady and Johnson (2002), Chabaud, Ferrand and Maury (2010) and Hen and Goroshit (2012), who all found procrastination to be significantly related to high levels of anxiety and stress. Covington (1993) further argued that procrastination helps to protect feelings of self-worth by avoiding potential failure.

2.4 Procrastination and gender

Pychyl, Coplan and Reid (2002) contended that the matter of gender differences in procrastination ought to be approached from two different viewpoints, namely gender differences in terms of the amount of procrastination and gender differences in terms of the correlates of procrastination. Even so, there had been contradictory findings regarding the relationship between procrastination and gender.

According to Van Eerde (2003) gender is related to procrastination, in that males are slightly more likely to procrastinate than females. Senecal et al. (1995), Steel (2007) and Steel and Ferrari (2013) also found procrastination more common in males than females.

This notion was further confirmed by Klassen et al. (2009), who during their study on adolescents found that males rate their procrastination and positive self-esteem higher than females across settings, whereas females rate their negative self-esteem, self-efficacy for self-regulation, and test anxiety higher than males in both settings. Similar relationships have been found across genders for procrastination and test anxiety in other studies (Flett, Blankstein, & Martin, 1995).

In contrast, however, some researchers (e.g. Haycock, McCarthy, & Skay, 1998; Paludi & Frankell-Hauser, 1986) have warned that evidence shows women to be at greater risk for procrastination than men, as well as that women may experience greater levels of anxiety related to procrastination than men (Rothblum et al., 1986). Pychyl et al. (2002) found a significant negative relationship between self-worth and procrastination in women, yet not in men.

There had also been a number of researches which found no significant difference between male and female participants with regard to procrastination frequency (Demeter & Davis, 2013; Rothblum et al., 1986). Contrary to the study's initial prediction Konovalova (2007) also found no gender differences in procrastination prevalence neither in willingness to change procrastinatory habits nor in reasons for procrastinating. In terms of the correlates of procrastination, Ferrari, Johnson and McCown (1995), Effert and Ferrari (1989) and Solomon and Rothblum (1984) found no significant gender differences.

Another aim of the current study is to determine whether procrastination frequency differs across gender. According to Connel and Ryan (1986) and Vallerand and Bissonnette (1992) should women procrastinate less than men, it could be arguably because women are generally more intrinsically motivated than men and less externally regulated and amotivated with regard to academic activities than men.

2.5 Procrastination and age

Palmer (1998) argued that academic procrastination may start as early as in early adolescents during high school, instead of only later on in university. This is in line with Burka and Yuen's (2008) presumption that for many, the earliest symptoms of procrastination occurred in school.

Van Eerde (2003) found age to be negatively related to procrastination and propose the possibility that "individuals may overcome their procrastination tendency as they grow older" (pp. 1403). Morford (2008) confirmed Van Eerde's notion that age is negatively related to procrastination, and Ainslie (1992) also reported that repeated practice ought to decrease procrastination frequency.

O'Donoghue and Rabin (1999) proposed that many people overcome procrastination by generating schemes to overcome it and not by using inherent self-control. Thus

procrastination should decrease as people age, as also argued by Steel (2007) asserting that people can learn to avoid procrastination.

Gallego and Pardos-Prado (2013) argued that age may be a confounding variable because it is positively related to education, yet negatively related to Conscientiousness.

However, Rosário et al.(2009) found age to be significantly positively related to academic procrastination, showing that students procrastinate more as they progress through school. This may be because of adolescents' tendency to put off unpleasant tasks requiring more effort, preferring to engage in more interesting activities (Ferrari, Harriott, Evans, Lecik-Michna, & Wenger, 1997), which may in turn generate anxiety (Blunt & Pychyl, 2005; Ferrari & Scher, 2002).

2.6 Procrastination and area of residence / family size

The education system in South Africa is still divided in two. On the one hand, functional, well-resourced schools, are able to educate learners whereas, on the other hand mismanaged, under-resourced schools are unable to equip learners with the necessary skills due to the legacy of Apartheid (Spaull, 2011). Spaull (2011) found that school socioeconomic status (SES) has the largest impact on learner performance. He differentiated between school SES, where the average of all the learners SES scores in a certain school was taken and assigned to each student as school SES (Spaull, 2011, p.7), and individual SES. He found the two to be jointly very significant.

A relationship is suggested between SES and children's IQ scores and academic achievement by a number of international research studies, and Maswikiti (2005) conducted a study on a sample of South African children aiming to determine whether quality of education as well as SES affected IQ scores and academic performance in South Africa as well. The outcome of the study confirmed the assumption that children from high SES

families and with better quality of education had higher IQ scores than children from low SES families and with a low quality of education.

The definition of SES, in the American Psychological Association (APA) Dictionary of Psychology (2007), includes all the types of capital stating that:

Socioeconomic status is the position of an individual or group on the socioeconomic scale, which is informed by a combination or interaction of social and economic; factors, such as income, amount and type of education, kind of prestige and occupation, place of residence and in some societies even ethnic origin and religious background. (p. 871)

2.6.1 Area of residence

The current study will focus on one of these SES factors namely place of residence, and see how and if it is related to academic procrastination. The study thus aims to indicate whether SES or certain factors thereof might influence a learner's susceptibility to procrastinate academically, which in turn could lead to poor academic performance.

2.6.2 Number of siblings

Ferrari and Olivetti (1993, 1994) and Scher and Ferrari (2000) suggested that family dynamics though indirectly, play an important role in procrastination. Earliest theories of procrastination came from the psychodynamic school of psychology where personality is assumed to be the product of childhood experiences and everyday behaviour is believed to be influenced by unconscious mental processes and internal conflict (Matlin, 1995). Thus from a psychodynamic perspective, procrastination (as a troublesome behavioural manifestation of underlying internal conflict) often involves feelings towards or regarding a person's family (Balkis, 2006).

Burka and Yuen (2008) suggested that family relationships could influence procrastination habits, or the reasons behind it. More specifically they implied that fear of

losing family connections may cause a person to procrastinate. Little research has been done on family size as a possible predictor of procrastination, and one of the aims of the current study is to determine whether a relationship exists between procrastination and family size.

Rosário et al. (2009) analysed the impact of family and educational variables on academic procrastination behaviour, and found that procrastination decreases as the parents' educational levels increase. The researchers furthermore found the more siblings the learner has, the more academic achievement decreases and procrastination increases in relation thereto. According to the researchers, this finding could be due to learners being distracted by their siblings with more appealing non-academic tasks and that a higher number of siblings are not only associated with more noise and distractions, but also with parents lack of time to support their children's performance of school work.

In a recent study on the relationship between procrastination and a number of variables (gender, age, marital status, family size, education, community location, and national origin) Steel and Ferrari (2013) surveyed 16 413 English-speaking adults (M age = 38.3 years, SD = 14), using an internet sampling strategy and found gender, age, marital status, education and nationality to be statistically the most significant although all results were significant because of the large sample size.

2.7 Procrastination and personality

Johnson and Bloom (1995) described procrastination as a relatively stable personality variable (see also Choi & Moran, 2009) that can be categorised as a facet in more comprehensive and general models of personality traits, such as the Big Five model of personality (De Raad & Perugini, 2002; McCrae & Costa, 1985). De Bruin and Rudnick (2007) therefore assert that some people are more likely to procrastinate than others.

A number of studies in the educational context investigated the relationships among personality traits, academic performance, motivation, and satisfaction

(Komarraju, Karau, & Schmeck, 2009; Oswald, Schmitt, Kim, Ramsay, & Gillespie, 2004; Paunonen & Ashton, 2001; Trapman, Hell, Hirn, & Schuler, 2007) and de Bruin and Rudnick (2007) furthermore argued that it could be fruitful to relate academic procrastination to the factors of the Big Five model of personality. According to this model, individual differences in personality can satisfactorily and comprehensively be described in terms of five broad traits.

There has been some disagreement, however, as to what each broad trait or dimension's exact label should be (Goldberg, 1993). The five factors were initially labelled by Norman (1963) as; I - Extraversion or Surgency (talkative, assertive, energetic); II - Agreeableness (good-natured, cooperative, trustful); III - Conscientiousness (orderly, responsible, dependable); IV - Emotional Stability (calm, not neurotic, not easily upset); and V - Culture (intellectual, polished, independent-minded). Digman and Takemoto-Chock (1981) and Peabody and Goldberg (1989) interpreted factor V as Intellect and McCrae and Costa (1987) interpreted it as Openness.

These five factors or broad traits interact to form human personality (McCrae & Costa, 1997) and are now generally accepted as Extraversion, Neuroticism, Agreeableness, Conscientiousness and Openness to Experience (Atkinson, Atkinson, Smith, Bem, & Nolen-Hoeksema, 2000; McCrae & Costa, 1997). These factors eventually became known as the "Big Five" (Goldberg, 1981) with the title emphasising that each of these dimensions represent personality at the broadest level, summarising a much larger number of specific personality characteristics (John & Srivastava, 1999). Some researchers have argued that five factors are not sufficient to explain all individual differences in personality (Block, 1995), however the five factors do not deplete the description of personality but it simply represents the highest hierarchical level of a trait (McCrae & John, 1991). It is only at a global level that the five factors give a complete characterisation of a person (McCrae, Costa & Busch, 1986).

Table 1

Definitions of the Big Five Personality Domains and the Facets That Define Each Domain

Neuroticism: identifies individuals who are prone to psychological distress

- Anxiety:** level of free floating anxiety
- Angry Hostility:** tendency to experience anger and related states such as frustration and bitterness
- Depression:** tendency to experience feelings of guilt, sadness, despondency and loneliness
- Self-Consciousness:** shyness or social anxiety
- Impulsiveness:** tendency to act on cravings and urges rather than reining them in and delaying gratification
- Vulnerability:** general susceptibility to stress

Extraversion: quantity and intensity of energy directed outwards into the social world

- Warmth:** interest in and friendliness towards others
- Gregariousness:** preference for the company of others
- Assertiveness:** social ascendancy and forcefulness of expression
- Activity:** pace of living
- Excitement Seeking:** need for environmental stimulation
- Positive Emotions:** tendency to experience positive emotions

Openness to Experience: the active seeking and appreciation of experiences for their own sake

- Fantasy:** receptivity to the inner world of imagination
- Aesthetics:** appreciation of art and beauty
- Feelings:** openness to inner feelings and emotions
- Actions:** openness to new experiences on a practical level
- Ideas:** intellectual curiosity
- Values:** readiness to re-examine own values and those of authority figures

Agreeableness: the kinds of interactions an individual prefers from compassion to tough mindedness

- Trust:** belief in the sincerity and good intentions of others
- Straightforwardness:** frankness in expression
- Altruism:** active concern for the welfare of others
- Compliance:** response to interpersonal conflict
- Modesty:** tendency to play down own achievements and be humble.
- Tender-Mindedness:** attitude of sympathy for others.

Conscientiousness: degree of organization, persistence, control and motivation in goal directed behaviour

- Competence:** belief in own self efficacy
- Order:** personal organization
- Dutifulness:** emphasis placed on importance of fulfilling moral obligations
- Achievement Striving:** need for personal achievement and sense of direction
- Self-Discipline:** capacity to begin tasks and follow through to completion despite boredom or distractions.
- Deliberation:** tendency to think things through before acting or speaking.

The NEO PI-R (Costa & McCrae, 1992b) is a measure of the five major domains of personality as well as the six facets that define each domain. Table 1 summarises the definitions of each domain as well as that of each constituent facet, as explained by Costa and McCrae (1992b).

Norman (1969) provided early evidence that the five factors could be measured by self-report questionnaires, and later on in the 1980s, studies started to appear using both questionnaires and trait adjectives and both self-reports and observer ratings (McCrae & John, 1991). Five-factor theorists claim that these factors (combined or individually) can be found in almost all personality instruments (McCrae & John, 1991).

McCrae and Costa (1985) did a comprehensive programme of factor analytic studies, showing that almost all traits measured by personality questionnaires can be located within the factor space defined by the Big Five. In this regard, the Big Five may be seen as a coordinator in the field of personality research (De Raad & Perugini, 2002).

John and Srivastava (1999) explained the Big Five personality dimensions as being derived from the everyday terms people use to describe themselves and others (natural language). The Big Five taxonomy serves to integrate various other diverse systems of personality description in a common framework (John & Srivastava, 1999).

Quite a number of researches have investigated personality traits in an effort to better understand procrastination and its causes (Burka & Yuen, 2008; Ellis & Knaus, 1977; Lay, Kovacs & Danto, 1998; Lee, Kelly, & Edwards, 2006; Milgram & Tenne, 2000; Ross, Canada, & Rausch, 2002). Within the Big-Five model of personality (Costa & McCrae, 1992a), two main personality traits, Neuroticism and Conscientiousness were noted to be linked to procrastination (Johnson & Bloom, 1995; Schouwenburg & Lay, 1995; Watson, 2001).

2.7.1 *Conscientiousness*

Pornsakulvanich et al. (2012) found personality traits to be better predictors of cognitive and affective academic performance than learning styles. They also confirmed Cheng and Ickes' (2009) notion that Conscientiousness is a significant and stable predictor of academic performance. In fact, meta-analyses indicated correlates of between .23 and .27 for Conscientiousness with college grades, and .21 for Conscientiousness with academic achievement during high school (Nofle & Robins, 2007; O'Connor & Paunonen, 2007; Poropat, 2009; Trapmann, Hell, Hirn, & Schuler, 2007).

Conscientious individuals are described as being dependable, organised and responsible (Davis & Palladino, 2007) as well as being able to delay gratification and keep to deadlines (McCloskey, 2011). McCloskey (2011, p. 32) further described Conscientiousness as "a unique facet of personality and displays a tendency to seek achievement and plan, coordinate and regulate behaviour".

These findings support other studies (e.g. Ferrari, Johnson, & McCown, 1995; Lay, Kovacs, & Danto, 1998) which reported low Conscientiousness as a strong predictor of chronic procrastination, and as a strong predictor of procrastination, specifically in the realm of academic performance (Higgins, Peterson, Pihl, & Lee, 2007; McCloskey, 2011). Lay (1997) even suggested that a lack of Conscientiousness may be the direct source for procrastination.

On the other hand, Conscientiousness has been positively related to academic success (Barchard, 2003; Cheng & Ickes, 2009; Nofle & Robins, 2007) and higher grades (Chamorro-Premuzic & Furnham, 2003; Kappe & van de Flier, 2010; Oswald et al., 2004), suggesting that university students with high levels of Conscientiousness are more likely to perform better academically as opposed to those with lower levels of Conscientiousness.

Interestingly, McCloskey (2011) found that academic procrastination fully mediates the relationship between Conscientiousness and academic success. The requirements for mediation to occur according to Baron and Kenny (1986) were met, in that a relationship between the independent variable (Conscientiousness) and dependent variable (academic success) were observed and a relationship between the independent variable (Conscientiousness) and the mediator (procrastination) existed. Furthermore, the mediator (procrastination) significantly predicted the dependent variable (academic success) and the relationship between the independent variable (Conscientiousness) and the dependent variable (academic success) became non-significant once the mediator (procrastination) was controlled.

Additional research (Lee, Kelly, & Edwards, 2006) into the relationship between procrastination and low Conscientiousness indicated that higher procrastination related to lower persistence in pursuing goals. The NEO Personality Inventory-Revised (NEO-PI-R) was used in a Schouwenburg and Lay (1995) study of Dutch university students, assessing Conscientiousness. It was found to be inversely related to procrastinatory behaviour. Conscientiousness refers to the quality of acting according to one's conscience and consists of the following facets: competence, order, dutifulness, achievement striving, self-discipline, and deliberation (Costa & McCrae, 1992a). Lay et al. (1998) developed self-report scales to assess procrastination and Conscientiousness in 149 girls and 131 boys (aged 7 – 11 years), based on previous research suggesting a link between procrastination and lack of consideration for others. As expected, they found a negative relationship between these constructs.

2.7.2 Neuroticism and Extraversion

Neuroticism is characterised by anxiety, jealousy, worry, moodiness and envy (Thompson, 2008). Watson (2001) found that strong Neuroticism was a predictor of

procrastination, as did Chamorro-Premuzic and Furnham (2003) who did a study on 247 British university students, as well as Johnson and Bloom (1995) with specifically the underlying facets of impulsiveness and vulnerability. However, the overall strongest predictor of procrastination was found to be low Conscientiousness (Clariana, 2013; Dewitte & Schouwenburg, 2002; Diaz-Morales, Cohen, & Ferrari, 2008; Fabio, 2006; Johnson & Bloom, 1995; Kelly & Johnson, 2005; Lay & Brokenshire, 1997; MacCann et al. 2009; Scher & Osterman, 2002; Steel, 2007, 2010; Steel & Ferrari, 2013; Van Eerde, 2003; Watson, 2001).

McCown, Petzel and Rupert (1987) did a study using the Eysenck and Eysenck (1985) three facet personality model, and found that self-reported procrastination correlates positively with Extraversion and reveals a curvilinear relationship with neuroticism (high and low neuroticism scores positively associated with higher procrastination scores).

Extraversion tends to be manifested in outgoing, talkative, enthusiastic, assertive, energetic behaviour, whereas introversion is manifested in more reserved and solitary behaviour (Thompson, 2008). According to Eysenck's arousal based theory (1967), extraverts are chronically under-aroused and in order for them to reach an optimal level of performance they need external stimulation. Introverts on the other hand are chronically over-aroused and in order for them to reach an optimal level of performance, they need peace and quiet (Eysenck, 1967). In other words, the behavioural differences between extraverts and introverts can be ascribed to differential arousal. The midrange of the Extraversion/introversion continuum is called ambiversion (Bartol & Bartol, 2008).

Freeman, Cox-Fuenzalida and Stoltenberg (2011) explored the relationship between Extraversion and arousal procrastination and found that Extraversion significantly predicted the tendency to engage in procrastinatory behaviour. They further explained that this result is

in accordance with Eysenck's theory (1967) and that it "suggest that extraverts may actively seek to engage in arousal procrastination in an effort to increase internal arousal" (p. 379).

Chapter 3

Methodology

3.1 Research aims

Numerous research studies (e.g. Akinsola et al., 2007; Chow, 2011; Ellis & Knaus, 1977) have investigated procrastination among university or college students specifically. The current study focused on high school learners. According to Skinner (1953) behaviour has to be reinforced in order to exist and thus in line with behavioural theory, learners who procrastinate have a history of procrastinating or at least a history of finding more reinforcing tasks than to study or do an assignment (Bijou, Morris, & Parsons, 1976). This leads one to believe that high school procrastinators will continue to procrastinate when they reach university or college. If this is in fact so, procrastination should be addressed in high school already.

The current study aimed to find whether a significant relationship exists between academic procrastination and academic achievement in high school learners. A significant number of researches regarded academic procrastination as an impediment to students' academic success (Beswick et al., 1988; Busko, 1998; Carden, Bryant, & Moss, 2004; Clariana, Gotzens, Badia & Cladellas, 2012; Ferrari et al., 1995; Hen & Goroshit, 2012; Senecal et al., 1995; Steel 2007; Sub & Prabha, 2003; McCloskey, 2011; Wang & Englander, 2010). Academic procrastination is therefore expected to be negatively related to academic achievement in the present study as well.

Secondly, the current study investigated whether certain personality types of individuals are more prone to procrastination than others. It is expected that the present study will show academic procrastination to be significantly negatively correlated with Conscientiousness, and to be significantly positively correlated with neuroticism, since these two main personality traits were noted to be linked to procrastination as such by amongst

others, Johnson and Bloom (1995), Schouwenburg and Lay (1995) and Watson (2001), within the Big-Five model of personality (Costa & McCrae, 1992a).

There seems to be less research about the relationship between procrastination and demographic variables, and therefore the last aim of the current study was to investigate the relationships between gender and academic procrastination, age and academic procrastination, family size (specifically number of siblings) and academic procrastination; and area of residence (urban/rural) and academic procrastination. The anticipated influence of gender and age is difficult to predict because of the contradictory findings related to these. Rosário et al. (2009) found the more siblings a learner has, the more academic achievement decreases and procrastination increases in relation thereto. The current study is thus expected to show the same positive correlation between academic procrastination and number of siblings. It is uncertain whether area of residence (urban/rural) will be related to academic procrastination in any way.

3.2 Research design

The present quantitative study, used an exploratory, cross-sectional design involving correlational analyses. Cross-sectional research was chosen because it's less expensive than for example cohort studies, because observations are made at one point in time (Mann, 2003). The data collection was carried out in a non-contrived setting, which is in the classroom, under normal examination-simulated circumstances. The psychometric instruments used in the study were all self-report inventories. The current study made use of parametric data and consequently parametric analyses. Sheskin (1997) distinguished between parametric versus non-parametric tests based on the level of measurement represented by the data being analysed. Generally, inferential statistical tests which evaluate categorical/nominal data and ordinal/rank-order data are categorised as non-parametric tests, while those tests that evaluate interval data or ratio data are categorised as parametric tests (Sheskin, 1997). Parametric

tests make certain assumptions about the data on which the test is performed. Firstly, in parametric tests there is the assumption that the data is drawn from a normal distribution. Secondly, data is measured on an interval scale with regard to parametric tests. Lastly, parametric tests make use of a numerical or other measurable factor that defines a population in terms of establishing a boundary such as the mean and standard deviation (Garson, 2012). Non-parametric tests, on the other hand, make no assumptions at all about the population from which the data is drawn (Garson, 2012).

3.3 Sampling

The current study had (by means of stratified sampling) a sample size of 349 high school learners, ranging from Grades 8 to 12, from three different private high schools in the North West province, South Africa. The participants all had English as their first or second language, but English was all of their language of education. The sample group consisted of Black, Indian, Coloured and White individuals¹. 167 participants were male (47.9%), 180 were female (51.6%) and 2 participants' gender was not disclosed (0.6%). Ages of participants ranged between 12 and 19 years, with a mean of 15.55 (SD: 1.56). 3 participants were aged 12 years, 35 were aged 13 years, 56 were aged 14 years, 66 were aged 15 years, 81 were aged 16 years, 62 were aged 17 years, 29 were aged 18 and 7 were aged 19 years (10 participants did not disclose their age).

3.4 Ethical considerations

Written consent was obtained from each of the school principals by means of Appendix E, after which the researcher handed out letters to the prospective participants containing information on the study (see Appendix G), and also letters asking for assent from

¹ These categories were formed during the Apartheid era (1948-1994) and this legacy still influences availability to resources and education within democratic South Africa

each participant as well as written consent from each parent/guardian of participants under the age of 18 years (Appendix F). These letters assured participants of confidentiality and anonymity, the right to refuse to take part in the study as well as the assurance that they would not be affected in any way should they refuse to take part or withdraw at any stage.

3.5 Data collection procedures

As previously stated, written consent was obtained from each of the school principals (Appendix E), as well as assent from each participant and written consent from each parent/guardian of participants under the age of 18 years (Appendix F). Participants were assured of confidentiality and anonymity as well as the fact that non-participation or withdrawal would not have any negative consequences for them whatsoever. The questionnaires and inventories were administered to the learners in their school classrooms, under normal examination-simulated circumstances by the researcher. The number of learners per class ranged between 30 and 40, and the total duration for administration as well as completion of all questionnaires and inventories was approximately 60 minutes per class.

All signed consent/assent forms as well as all the questionnaires and inventories gathered was stored in a safe and secure location.

Personal Information Questionnaire (PIQ)

Learners' personal information and demographic variables age, gender, family size and area of residence was obtained from the Personal Information Questionnaire (PIQ) compiled by the researcher. The PIQ also determined what each participant's average academic grade was on his or her latest report card.

Tuckman Procrastination Scale (TPS)

Then the Tuckman Procrastination Scale (TPS) developed and validated by Tuckman (1991) was administered. The TPS is a 35 item, four point Likert-type scale, with a reliability coefficient of .90. The TPS's reliability index within the South African context

still needs to be researched. This scale provides a general index of academic procrastination resulting from a student's ability to self-regulate or control task schedules. The scale is a self-report scale of procrastination. This selection criterion was chosen to increase the probability that procrastination was assessed in a valid way. Generally for the 16 item TPS, scores in the 57-64 range are considered high, 50-56 range moderate, and 35-49 range low (Tuckman, 2002). Therefore, for the 32 item TPS used in the present study, scores in the 113-128 range will be considered high, 100-112 range moderate and 70-99 range low. Validity of this measure is based on a correlation of $-.54$ between scale scores and a behavioural measure of self-regulation (Tuckman, 1991). Again, the validity index of the TPS within the South African context still needs to be researched.

Klassen and Kuzucu (2009) used the TPS on high school populations as did Bezci and Vural (2013) with the mean age of the population at 13.12.

Ten-Item Personality Inventory (TIPI)

The Ten-Item Personality Inventory (TIPI) was used to measure the Big-Five personality domains including Conscientiousness, Emotional Stability (often labeled neuroticism), Agreeableness, Openness to Experience and Extraversion using two items for each scale. Items will be measured on a 10 point Likert-type scale. Five of the ten items require reverse scoring. Higher scores will indicate higher levels of the specific personality domain. The TIPI has been reported to have moderate mean convergence of $r^2 = 0.59$ and moderate mean test re-test reliability of $r^2 = 0.52$ (Gosling, Rentfrow, & Swan, 2003). The TIPI's reliability index within the South African context still needs to be further researched. There are numerous personality inventories available, for example the California Psychological Inventory (CPI) with 462-item and 480-item versions, the Hogan Personality Inventory (HPI) with 310-item and 276-item versions and the NEO Personality Inventory – Revised (NEO-PI-R) with a 240-item version.

A common disadvantage is the length of the inventory and consequently the completion time. Another disadvantage is the fact that these are proprietary instruments whose items are copyrighted by the test authors, and can therefore not be used freely. Because the current study investigated high school learners, the researcher took care not to administer questionnaires and scales that would take too long to complete causing students to lose focus or interest. The Ten-Item Personality Inventory (TIPI) aimed to address these completion time issues, and is public domain, which is why it was used in the current study.

The TIPI was used in a study by Carvalho, Nunes, Primi and da Silva Nunes (2012) on a sample of 404 students all aged between 14 and 20 years old (average = 15.9), where most of the participants were aged between 15 and 17 years old.

Holmes (2010) conducted a study to test the validity and reliability of the TIPI, and the convergent correlations indicated that the TIPI is valid with a mean correlation of $r_s = .61$. Validity of the TIPI within the South African context still needs further examination. Holmes (2010) recommends using the TIPI considering the convenience of a short reliable and valid instrument for utilisation where time is limited.

3.6 Data analysis procedure

3.6.1 *Procrastination and academic achievement*

Pearson's correlation coefficient is a common measure of association between two continuous variables. It is defined as the ratio of the covariance of the two variables to the product of their respective standard deviations, commonly denoted by the Greek letter ρ (rho) (Chok, 2008). Spearman's rank-order correlation coefficient (denoted ρ_s) is a rank-based version of the Pearson's correlation coefficient. The Pearson product moment correlation is the most frequently used coefficient for normal distributed data. On the other hand, nonparametric methods such as Spearman's rank-order are usually suggested for non-normal data (Chok, 2008). The current study, thus, made use of Pearson's correlation coefficient.

The correlation coefficient r measures the strength and direction of a linear relationship between two variables on a scatterplot. In the present study the total scores on the Tuckman Procrastination Scale (TPS) of all participants were correlated with the actual total average academic grades of all participants obtained by means of the Personal Information Questionnaire (PIQ). A strong correlation, negative in direction was hypothesised, meaning that an increase in procrastination was expected to result in a decrease in academic achievement. The researcher was thus only interested in one side of the probability distribution and the test was therefore one-tailed. One-tailed t-tests are used to determine whether one mean is higher than another.

3.6.2 Procrastination and gender

In order to determine whether male and female participants differ with regard to procrastination frequency, the researcher performed a t-test for independent samples, between gender and the total scores on the TPS of each gender group. A t-test is used to compare whether two groups have different average values, in this case whether the average procrastination frequency values of two groups (namely male and female) differ. In this case the test was two-tailed because the researcher was interested in both sides of the probability distribution. Two-tailed tests are used to determine whether two means are different from each other.

3.6.3 Procrastination and age

According to Scheffé (1999) analysis of variance (ANOVA) is a collection of statistical models used to analyse the differences between group means and their associated procedures, such as variation among and between groups. One-way analysis of variance (abbreviated one-way ANOVA) is a technique used to compare means of three or more samples (using the F distribution). A one-way ANOVA was done between age (12=A; 13=B; 14=C; 15=D; 16=E; 17=F; 18=G; 19=H) and the TPS scores of each group to determine

whether significant differences between different age groups and academic procrastination exists.

3.6.4 Procrastination and area of residence

In order to determine whether area of residence (rural / urban) is related to academic procrastination in any way, a t-test for independent groups was done. As stated, a t-test is used to compare whether two groups have different average values and the researcher was interested in whether the average procrastination frequency values of two groups (namely rural and urban) differ. The test here was two-tailed again because the researcher was interested in both sides of the probability distribution.

3.6.5 Procrastination and number of siblings

To determine whether family size (number of siblings) has a significant influence on academic procrastination a one-way ANOVA was once again done between number of siblings (specifically number of siblings; 0 - 1 = A; 2 - 3 = B; 4 - 5 = C; 6 and over = D) and TPS scores of each group. As mentioned, a one-way ANOVA is used to compare means of three or more samples (using the F distribution).

3.6.6 Procrastination and personality traits

The Ten-item Personality Inventory (TIPI) scores was measured against the TPS scores by means of Pearson's Correlation Coefficient to determine whether relationships exist between each of the Big-Five personality traits and academic procrastination. No relations were hypothesised between Extraversion and academic procrastination (AP), Agreeableness and AP and Openness to Experience and AP respectively and these tests were thus be two-tailed. In these cases the researcher was interested in determining whether two means are different from each other and therefore interested in both sides of the probability distribution.

Correlations significant in strength and negative in direction were hypothesised for Conscientiousness and AP and Emotional Stability and AP respectively. These tests were

therefore one-tailed because the researcher was only interested in one side of the probability distribution.

A correlation significant in strength and negative in direction was hypothesised, meaning that an increase in procrastination is expected to result in a decrease in academic achievement. The researcher was thus only interested in one side of the probability distribution and the test was therefore one-tailed. One-tailed tests are used to determine whether one mean is higher than another.

Chapter 4

Results: presentation and discussion

4.1 Results: Introduction

Scores from the Tuckman Procrastination Scale (TPS), Personal Information Questionnaire (PIQ) and Ten Item Personality Inventory (TIPI) were used to determine whether certain relationships exist between procrastination and academic achievement, gender, age, area of residence, number of siblings as well as certain personality traits respectively.

4.2 Data analysis

4.2.1 *Procrastination and academic achievement*

The scores on the Tuckman Procrastination Scale (TPS) were correlated with actual average academic grades obtained from each participant by means of the Personal Information Questionnaire (PIQ). As expected, a strong negative correlation was found ($r = -.23$; $p < 0.01$) showing that academic grades decrease when academic procrastination increases as shown in Figure 1. R-squared is an estimate of the proportion of variance in the dependent variable that is accounted for by the independent variable and in this case $R^2 = .05$. This means that academic procrastination accounts for 5% of the variance in academic achievement.

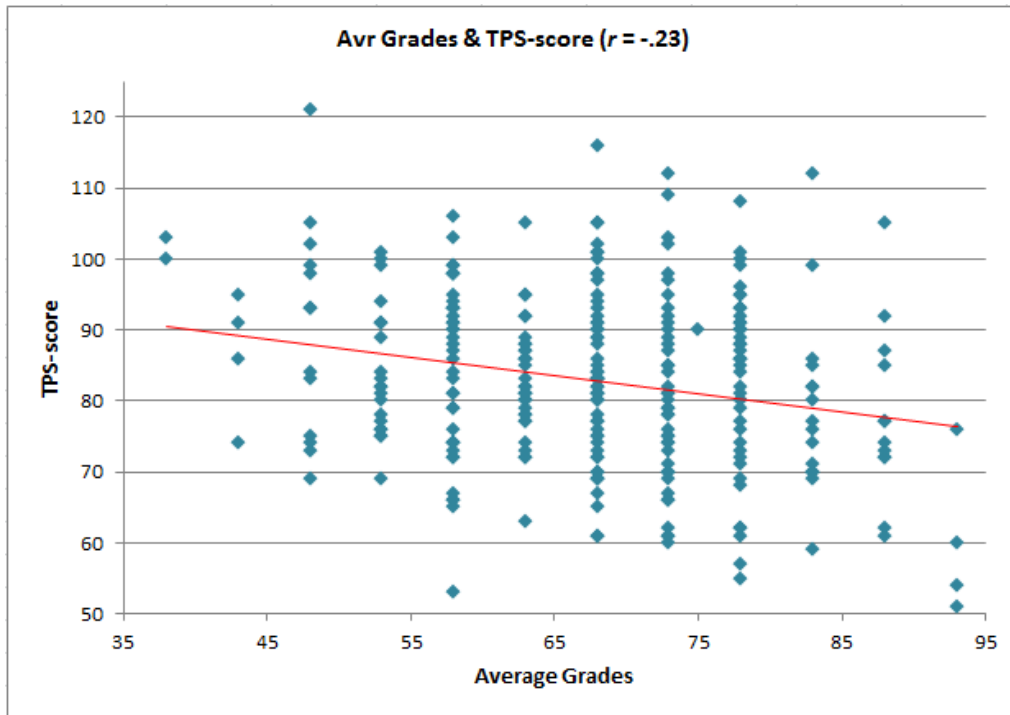


Figure 1. Correlation between TPS-scores and average grades

Table 2

Correlation between average grades and TPS-scores

	<i>n</i>	<i>df</i>	<i>r</i>	<i>p</i>
Avr Grd	287	285	-0.23	0.0005*

*one-tailed; Avr Grd, average grade; n, sample size; df, degree of freedom.

4.2.2 Procrastination and gender

A t-test was performed between gender and scores on TPS to determine whether a significant difference exists between male and female academic procrastination. Results were not significant ($t = -1.42$; $df = 290$; $p = 0.1567$) or said differently, the difference between male academic procrastination and female academic procrastination is not significant.

Table 3

Relationship between TPS-scores and gender

	\bar{x}	<i>sd</i>	<i>n</i>	<i>df</i>	<i>t</i>	<i>p</i>
Male	81.92	11.25	138	291	-1.42	0.1567**
Female	83.93	13.03	155			

**two-tailed; \bar{x} , group mean; *sd*, standard deviation; *n*, sample size; *df*, degree of freedom.

4.2.3 Procrastination and age

Analysis of variance (ANOVA) is a collection of statistical models used to analyse the differences between group means and their associated procedures, such as variation among and between groups (Scheffé, 1999). A one-way ANOVA was done between age (12=A; 13=B; 14=C; 15=D; 16=E; 17=F; 18=G; 19=H) and the TPS scores of each group to determine whether significant differences between different age groups and academic procrastination exists. Results showed no significant relationship between age and academic procrastination ($F = 1.464$; $p = 0.180$) as shown in Table 4.

Table 4

Relationship between TPS-scores and age

	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between:	1,537.661	7	219.666	1.464	0.180
Within:	42,011.518	280	150.041		
Total:	43,549.179	287			

SS, sum of squares; *df*, degree of freedom; MS, mean squares.

4.2.4 Procrastination and area of residence

A t-test was done between area of residence and TPS score to determine whether area of residence (rural / urban) was related to academic procrastination in any way. The results are depicted in Table 5 showing no significant relationship ($t = 2.02$; $df = 283$; $p = 0.0443$), meaning there was no significant difference between the academic procrastination scores of learners living in rural as opposed to urban areas.

Table 5

Relationship between TPS-scores and area of residence

	\bar{x}	sd	n	df	t	p
Rural	87.28	11.15	25	284	2.02	0.0443**
Urban	82.51	12.44	261			

**two-tailed; \bar{x} , group mean; sd , standard deviation; n , group size; df , degrees of freedom.

4.2.5 Procrastination and number of siblings

Furthermore, a one-way ANOVA was done between number of siblings (specifically number of siblings; 0 - 1 = A; 2 - 3 = B; 4 - 5 = C; 6 and over = D) and TPS score to determine whether family size (number of siblings) has a significant influence on academic procrastination. As shown in Table 6, the difference was not significant ($F = 1.822$; $p = 0.144$). There is thus no significant relationship between a learner’s academic procrastination and the number of siblings the learner has.

Table 6

Relationship between TPS-scores and no. of siblings

	SS	df	MS	F	p
Between:	883.495	3	294.498	1.822	0.144
Within:	34,424.307	213	161.616		
Total:	35,307.802	216			

SS , sum of squares; df , degree of freedom; MS , mean squares.

4.2.6 Procrastination and personality traits

The Ten-item Personality Inventory (TIPI) scores were measured against the TPS scores by means of Pearson’s Correlation Coefficient. The results are summarised in Table 7. As expected, a strong negative correlation was found between Conscientiousness and academic procrastination ($r = -.39$; $p < 0.01$) as shown in Figure 2. Thus, as Conscientiousness decreases, academic procrastination increases. Here $R^2 = .15$ which means that Conscientiousness accounts for 15% of the variance in academic procrastination.

Emotional Stability which is inversely referred to as Neuroticism (Wongpakaran &

Wongpakaran, 2014) was expectedly shown to be significantly negatively related to academic procrastination ($r = -.21$; $p < 0.01$) as shown in Figure 3, and $R^2 = .04$. This finding supports earlier research studies showing that Neuroticism is significantly positively related to academic procrastination (Johnson & Bloom, 1995; Lay, Kovacs, & Danto, 1998; Milgram & Tenne, 2000; Schouwenburg & Lay, 1995). The coefficient of determination (R^2) shows that 4% of the variance in academic procrastination is accounted for by Emotional Stability. Neuroticism is characterised by anxiety, jealousy, worry, moodiness and envy (Thompson, 2008), whereas Emotional Stability, self-evidently refers to being calm, not neurotic and not easily upset.

Interestingly, Openness to Experience was found to be negatively related to academic procrastination ($r = -.15$; $p = 0.0103$) in a relatively significant way at $\alpha = 0.05$, as shown in Figure 4. However, $R^2 = .02$ in this case shows that only 2% of the variance in academic procrastination is due to Emotional Stability.

The correlations between Extraversion and Agreeableness to academic procrastination were not significant, with $r = -.04$ ($p = 0.4967$) and $r = -.06$ ($p = 0.3086$) respectively and the coefficients of determination showed $R^2 = .00$ in both these cases meaning that none of the variance in academic procrastination can be accounted for by Extraversion or Agreeableness.

Table 7

Correlations between TPS-scores and Big-Five personality traits

	<i>n</i>	<i>df</i>	<i>r</i>	<i>p</i>
Conscientiousness	280	278	-0.39	0.00005*
Extraversion	291	289	-0.04	0.4967**
Agreeableness	290	288	-0.06	0.3086**
Emotional Stability	292	290	-0.21	0.00015*
Openness to experience	292	290	-0.15	0.0103**

*one-tailed; **two-tailed; *n*, sample size; *df*, degree of freedom.

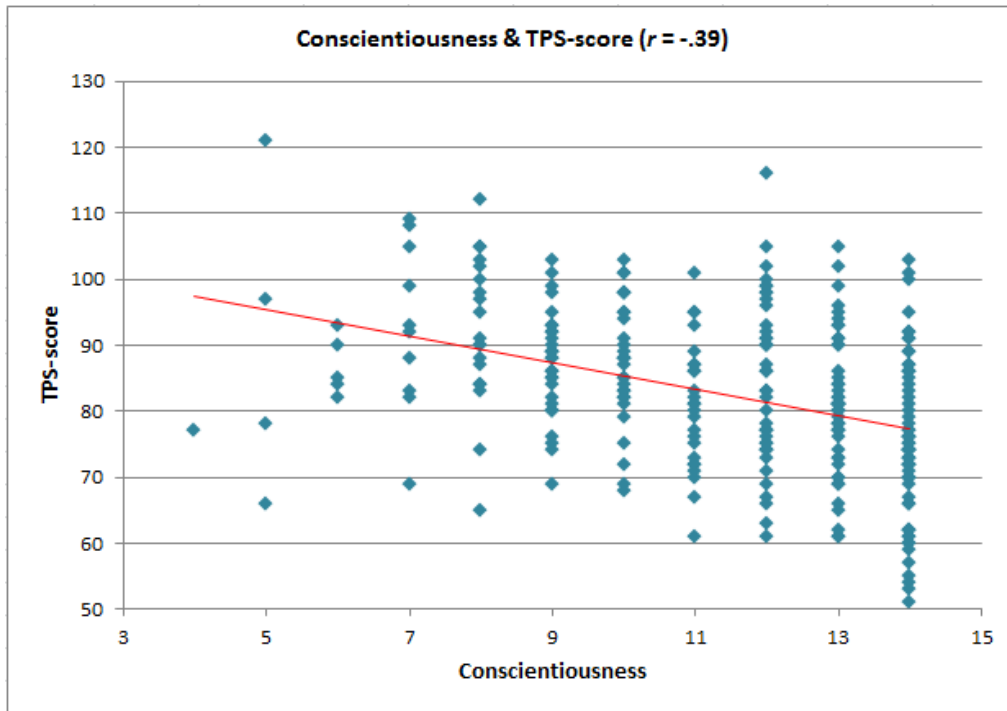


Figure 2. Correlation between TPS-scores and Conscientiousness

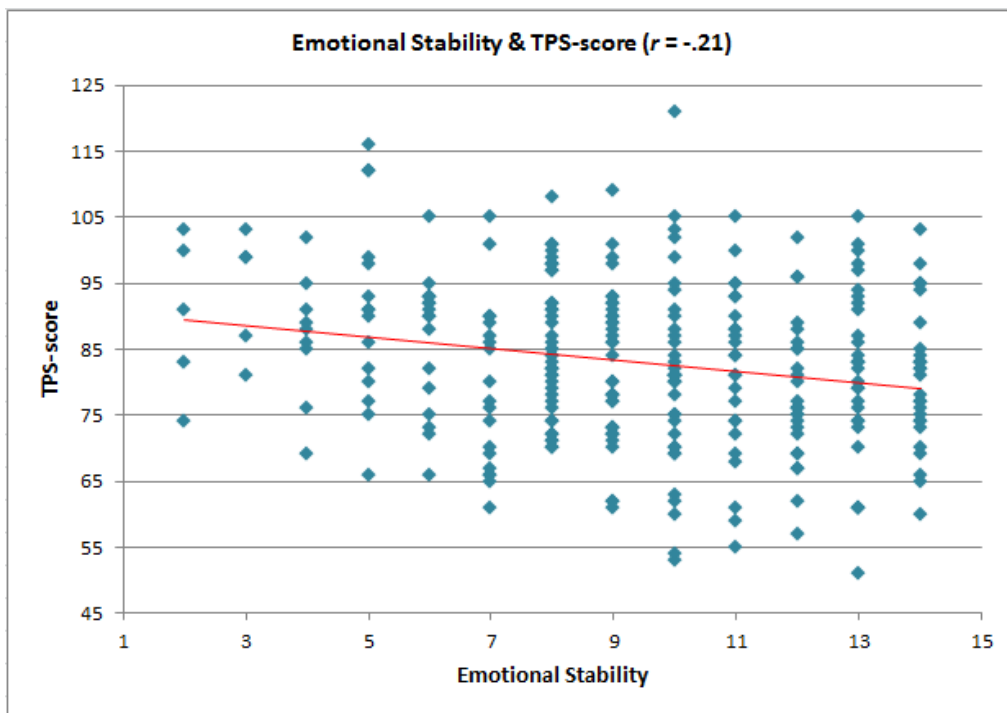


Figure 3. Correlation between TPS-scores and Emotional Stability

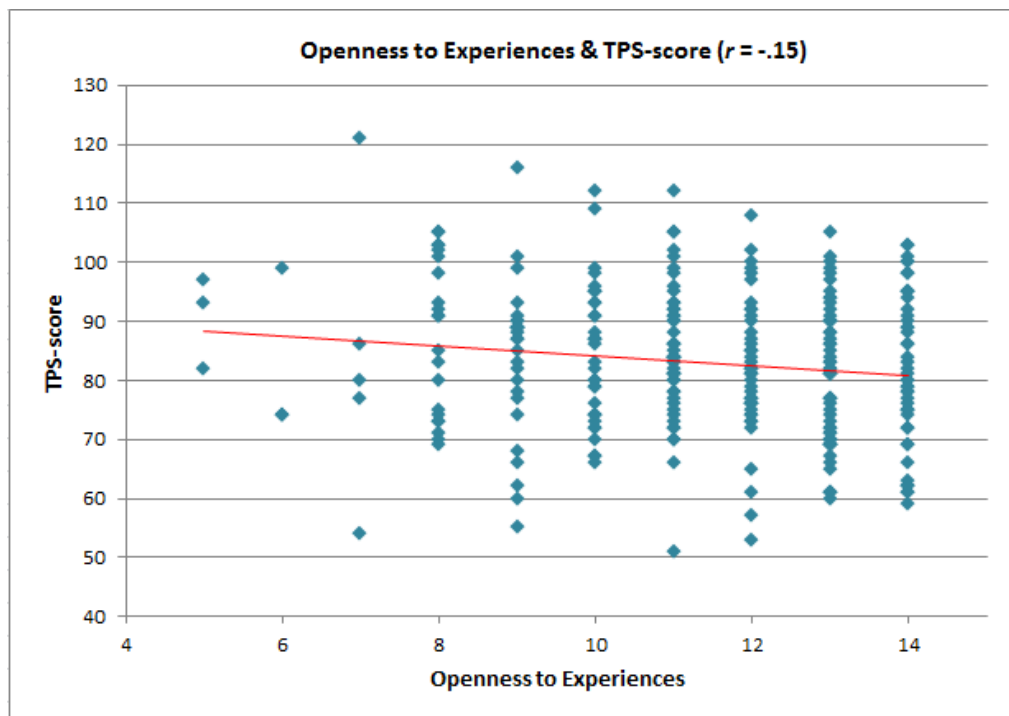


Figure 4. Correlations between TPS-scores and Openness to Experience

4.3 Data verification

The original Tuckman Procrastination Scale (TPS) consists of 35 items with Cronbach alpha reliability of .90 (Tuckman, 1991). For the current study, this 35 item scale was used. The TPS has not been evaluated with clinical populations. The TPS is regarded as a reliable test for identifying students with academic problems early on (Ferrari, Johnson, & McCown, 1995). Ferrari et. al, (1995) noted that future studies should include tests of reliability like test-retest and validity assessments. They furthermore recommend that this measure should also be evaluated with different populations and subgroups (Ferrari et. al., 1995). The current study focused on different populations in terms of age and gender.

The Ten-Item Personality Inventory (TIPI) has demonstrated good test-retest reliability in numerous studies, with retest intervals as long as six weeks. Ahmed and Jenkins (2013) noted that the internal consistency of the individual subscales had, however, generally been low due to the few items in each scale. Despite this though, the TIPI has shown good convergent and discriminant validity with other measures of personality and related

constructs (Ahmed & Jenkins, 2013). Ahmed and Jenkins (2013) outlined the TIPI's limitations as that it is not adaptable to capturing the finer personality traits subsumed by the Five-Factor Model. They note strong validity as an advantage of the TIPI when compared with longer personality measures, and its relative brevity that allows it to be usable in large scale studies.

4.4 Anomalies and surprising results

Openness to Experience is defined as the “proactive seeking and appreciation of experience for its own sake, and as toleration for and exploration of the unfamiliar” (Piedmont, 1998, p. 87). According to Steel (2007, p. 69), “there have yet to be any direct relationship posited between openness ... and procrastination and accordingly, none is expected”. Costa and McCrae (1992a) identified six facets that make up the Openness to Experience dimension, namely, active imagination (or fantasy), aesthetic sensitivity, attentiveness to inner feelings, preference for variety, intellectual curiosity and values. Watson (2001) found specifically the fantasy facet of Openness to Experience to be significantly positively related to procrastination ($r = .21$) on examinations, papers and reading, which is especially high when compared to the correlation between procrastination and all six facets of Openness to Experience taken together ($r = .08$). Moreover, Diaz-Morales et al. (2008) found that the high avoidant procrastinator respondents in their study (of 1027 Spanish adults), reported greater scores on imaginative/intuiting, a finding also consistent with Schouwenburg and Lay (1995) who found a positive correlation between procrastination and the fantasy facet of Openness to Experience. However, the current study found Openness to Experience (six facets combined) to be quite significantly, negatively related to academic procrastination ($r = -.15$).

Contrary to the results of Rosário et al. (2009) which showed that procrastination increases the more siblings a learner has, the current study found no significant relationship between academic procrastination and number of siblings.

The current study found that Extraversion and academic procrastination are not significantly related, whereas McCown et al. (1987) and Gallagher (1996) respectively showed Extraversion to be positively related to procrastination, and Freeman et al. (2011) concluded that Extraversion significantly predicts the tendency to engage in procrastinatory behaviour. On the other hand Milgram and Tenne (2000), Schouwenburg and Lay (1995) and Watson (2001) all found Extraversion to be negatively related with different aspects of procrastination.

4.5 Results: Conclusion

As previously mentioned, data was collected by means of the PIQ, the TPS and the TIPI. A significant negative correlation was found between procrastination and academic achievement. The correlations between procrastination and gender, age, area of residence and number of siblings respectively were not significant. Conscientiousness and Emotional Stability were both found to be significantly negatively related to procrastination, however, the relations between procrastination and Extraversion and Agreeableness respectively were not significant. An anomaly found in the present study was the negative relation between procrastination and Openness to Experience, and it is postulated that this finding may be due to the TIPI's inability to measure the individual facets of each Big Five Factor domain or that it could be ascribed to the need for cognition.

Chapter 5

Conclusions, limitations and recommendations

5.1 Conclusions, limitations and recommendations: Introduction

Numerous negative associations have been linked to procrastination, such as anxiety, depression, low self-esteem and, central to the current study, poor study habits (Tice & Baumeister, 1997). Relationships have also been found with guilt (Pychyl et al., 2000) and stress (Tice & Baumeister, 1997). The present study aimed to investigate whether significant relationships exist between academic procrastination and academic achievement, and between academic procrastination and certain demographic variables respectively in South African high school learners. Furthermore, the study aimed to investigate whether certain personality types of individuals are more prone to procrastinate than others.

5.2 Main findings

A significant negative correlation was found between academic procrastination and academic grades in the current study, showing that academic grades decrease significantly as academic procrastination increases.

The demographic variables investigated were gender, age, area of residence, and the number of siblings of the learner. A t-test was performed between gender and TPS score, but the results were not significant. This means that no significant difference exists between male academic procrastination and female academic procrastination. A one-way ANOVA was done between age and score on TPS, and here too the results showed no significant relationship. This shows that there is no significant difference between the extent to which different age groups procrastinate academically. A t-test was performed between area of residence and TPS score, and results once again showed no significant difference between how much learners living in rural as opposed to urban areas procrastinate academically. The one-way ANOVA done between family size (specifically number of siblings) and TPS score

also showed no significant difference, showing that no significant relationship exists between a learner's academic procrastination and the number of siblings the learner has.

Lastly, TIPI scores were measured against TPS scores to determine whether certain personality types of individuals are more prone to academic procrastination than others. Expectedly, results showed a strong negative correlation between Conscientiousness and academic procrastination. In other words, as Conscientiousness decreases, academic procrastination increases. Emotional Stability was shown to be significantly negatively related to academic procrastination. Stated differently, as Emotional Stability decreases, academic procrastination increases. As Emotional Stability is inversely referred to as neuroticism, it can be deduced that an increase in neuroticism causes academic procrastination to increase as well. Interestingly, Openness to Experience was found to be negatively related to academic procrastination in a relatively significant way. The correlations between Extraversion and academic procrastination, and between Agreeableness and academic procrastination respectively, were not significant.

5.3 Results: Interpreted in terms of literature

5.3.1 *Academic achievement*

The strong negative correlation found between academic procrastination and academic grades in the current study, supports the results of numerous previous studies for example Beck, Koons and Milgram (2000), Beswick et al. (1988), Busko (1998), Hen and Goroshit (2010), Lakshminarayan, Potdar and Reddy (2012), McCloskey (2011), Senecal et al. (1995), Tice and Baumeister (1997), Tuckman, Abry and Smith (2002) and Wesley (1994) who all found academic procrastination to be a hindrance to academic achievement.

According to Day, Mensink and O'Sullivan (2000) poor academic achievement is mainly due to a delay in starting on assignments. One of the reasons why some learners put off starting on academic tasks, whether it be working on an assignment or studying for a test

or examination, could be attributed to the planning fallacy. As previously mentioned, the planning fallacy is the tendency to make overoptimistic predictions regarding time required to complete a certain task (Buehler, Griffin, & Peetz, 2010; Kahneman & Tversky, 1979).

The cause of academic procrastination has been attributed to motivational issues (Senecal et al., 1995) on which psychodynamic factors like achievement motivation, goal orientation and self-efficacy show the greatest impact (Wang, 2013).

Chow (2011) found a negative correlation between self-efficacy and procrastination accordant to findings by Ferrari, Parker and Ware (1992) and Seo (2008), suggesting that another reason for learners delaying getting started on academic tasks could be a lack of confidence in the specific task or domain (Chow, 2011).

According to Park and Sperling (2012), procrastinators demonstrate a lack of self-regulation across the three areas of regulation, cognition, motivation, and behaviour proposed in Pintrich's (2000) self-regulation model. However, they furthermore found that procrastinators are significantly more self-worth protective than non-procrastinators and propose that this may explain the apparent lack of self-regulation among procrastinators (Park & Sperling, 2012). Park and Sperling (2012) found evidence that procrastinators engage in self-handicapping behaviour. Self-handicapping involves the decrease of effort, as such procrastination in order to protect self-worth by ascribing the likely poor outcome to lack of effort rather than lack of ability (Garcia and Pintrich, 1994; Midgley, Arunkumar & Urdan, 1996).

Steel (2007) went as far as defining procrastination as the "quintessential self-regulatory failure" (p. 65), a view challenged by Klassen, Krawchuk and Rajani (2008) who proposed that academic procrastination is "influenced not only by self-regulation skills, but also by beliefs in the forward-looking self-efficacy to self-regulate" (p. 922). After accounting for all variables in their study on 456 undergraduate students from a large public

university in Western Canada, Klassen et al. (2008) found self-efficacy for self-regulation to be the strongest individual predictor of procrastination.

Interestingly, in their study on 342 university students, Solomon and Rothblum (1984) found grades not to be significantly correlated with self-reported procrastination, however, even though their measure of procrastination focused on procrastination tendencies in general, their measure of academic performance was based solely on the students' grades on an introductory psychology course which could have caused a methodological artefact.

5.3.2 *Gender*

Findings regarding the relationship between procrastination and different genders had been contradictory. Senecal et al. (1995), Steel (2007), Steel and Ferrari (2013) and Van Eerde (2003) all found that men procrastinate more than women. A possible reason for this notion could be related to greater self-control among females in general (van Eerde, 2003; Else-Quest, Hyde, Goldsmith & Rozental, 2014).

On the other hand Haycock, McCarthy and Skay (1998) and Paludi and Frankell-Hauser (1986) argued based on their respective findings, that women are more prone to procrastination than men. This could be because women experience higher anxiety levels associated with procrastination (Rothblum, et al., 1986).

Moreover, there are also findings showing no significant difference between male and female procrastination prevalence (Demeter & Davis, 2013; Effert & Ferrari, 1989; Ferrari, Johnson & McCown, 1995; Konovalova, 2007; Rothblum, et al., 1986; Solomon & Rothblum, 1984). Gafni and Geri's (2010) study for example showed no gender differences in the procrastination tendency of 120 students from the Open University of Israel.

The current study affirms the latter group's finding that no significant difference exists between male academic procrastination and female academic procrastination. Ozer, Demir and Ferrari (2009) found that males and females are equally likely to report academic

procrastination, but that females, however, exhibit a significantly higher fear of failure than males do, a notion supported by Sharma and Kaur (2011).

Szalavitz (2003) identified a number of variables that may add to a person procrastinating, such as: “fear of failure, perfectionism, self-control, punitive parenting, thrill seeking, and task related anxieties” (p. 25), whereas Wang (2013) found motivation to pursue success, academic self-efficacy, motivation to avoid failure, and avoid ego-involved orientation to be the four most significant variables to predict academic procrastination.

Females show greater test anxiety than males do (Rothblum, Solomon, Murakami, 1986) and Rothblum et al. (1986) furthermore showed that high procrastinators report less self-efficacy, less delay of gratification and scored significantly lower on self-control than low procrastinators. Moreover, females were shown to score significantly lower on self-control than men did (Rothblum et al., 1986).

If the prevalence of all these variables differ in relation to gender, it could in turn explain gender differences in procrastination prevalence and frequency. It is thus feasible to examine the gender differences pertaining to these specific variables more closely.

5.3.3 Age

The current study showed no significant difference between the academic procrastination frequency of different age groups, confirming the finding of Clariana, Cladellas, Gotzens, Badia and Dezcallar (2014) whom in their study on 417 Spanish primary school learners (aged between 8 and 13 years) found age to have no effect whatsoever on procrastination. In contrast Van Eerde (2003) found procrastination to decrease with age as did Morford (2008) and Steel (2007), whereas Rosário et al. (2009) found academic procrastination to increase significantly with age.

According to Banich (2009) and O’Donoghue and Rabin (1999) the development of higher cognitive functions during adolescence, which are essential for self-regulation and

goal setting among other things, could explain why procrastination tendencies might decrease with age.

Socioemotional selectivity theory (Carstensen, Isaacowitz & Charles, 1999) argues that the perception of time is integral to human motivation and that it plays a pivotal role when selecting and pursuing social goals. Rozental (2014) interprets socioemotional selectivity theory as “when time is running out, there is no room left for postponing the commitments that need to be done, resulting in less procrastination” (p. 1490), a notion which could also explain the possible decrease of procrastination with age.

Yet another possible reason for the decrease of procrastination with age, relates to Conscientiousness. According to Duffy and Czeisler (2002), Helson and Kwan (2000) and Srivastava, John, Gosling and Potter (2003) Conscientiousness increases across the lifespan and as previously mentioned, it is widely found that Conscientiousness is inversely related to procrastination (e.g. Lay, 1997; MacCann, Duckworth, & Roberts, 2009). Gallego and Pardos-Prado (2013) however argued that age is negatively related to Conscientiousness. It is thus practical to investigate the different facets of Conscientiousness to determine if and how each relates to procrastination.

Interestingly, in a study on 447 learners (comprising of 149 high school, 150 undergraduate and 148 graduate learners) enrolled in a public high school and a public university in Sivas, Turkey, Ozer (2011) found that the undergraduates are the highest procrastinating group followed by the graduates and lastly the high school learners. This finding suggests a curvilinear relationship between age and procrastination, another viewpoint that should be further investigated.

5.3.4 Area of residence and number of siblings

The current study aimed to indicate whether a certain factor of SES – in this case area of residence – is related to a learner’s susceptibility to procrastinate academically, but no

significant difference was found between the academic procrastination scores of learners living in rural as opposed to urban areas. It therefore cannot be concluded that the “place of residence” factor of SES solely relates to the academic procrastination frequency of learners.

According to Bui (2002) and Penrose (2002) students who are the first in their families to attend college tend to lack adequate academic preparation and confidence in their ability to succeed. Onwuegbuzie (2000) concluded that academic procrastination should be considered “from a broad social perspective” (p.108), and Rosario, Mourao, Nunez, Gonzalez-Pienda and Valle (2006) argued that family plays an essential role in the acquisition of suitable habits. A study by Gurin and Epps (1975) showed that African American males who displayed fear of failure, had lower grades than those who did not display fear of failure, whereas Phillips (2002) found that African Americans who attend predominantly white institutions experience fear of failure associated with disappointing and embarrassing their families. Davis (1999) found no significant differences in the level of procrastination in high school learners, based on ethnicity (African American, Hispanic and Caucasian) and further research in this area is needed in order to determine whether there are any ethnic differences in procrastination prevalence in South African learners.

Little research has been done on family size as a possible predictor of procrastination, however, Rosário et al. (2009) analysed the impact of family and educational variables on academic procrastination and found the more siblings a learner has, the more academic achievement decreases and procrastination increases in relation thereto. Although the current study expected to find the same positive relation between the number of siblings a learner has and the learner’s academic procrastination, the relationship showed not to be significant.

It is proposed that the different SES factors be examined individually and collectively, in order to achieve a better understanding of its relation to academic procrastination, especially in the South African context.

5.3.5 *Big Five Personality traits*

Schacter, Gilbert and Wegner (2009) argued that personality remains fairly consistent throughout the lifespan, and Roberts and Del Vecchio (2000) did a comprehensive study in which they compiled 3,217 test-retest correlation coefficients from 152 longitudinal studies, and found that trait consistency increased from .31 in childhood to .54 during college years, to .64 at age 30, and then reached a plateau around .74 between ages 50 and 70. They did not find gender differences in trait consistency however, a finding consistent with that of Schuerger, Zarrella and Hotz (1989).

The current study, lastly, aimed to determine whether certain personality types of individuals are more prone to academic procrastination than others.

5.3.5.1 *Conscientiousness*

Expectedly, the current study showed a strong negative correlation between Conscientiousness and academic procrastination. Academic procrastination thus increases as Conscientiousness decreases. This finding supports previous studies which reported low Conscientiousness as a strong predictor of chronic procrastination (e.g. Fabio, 2006; Ferrari et al., 1995; Kelly & Johnson, 2005; Lay et al., 1998, Schouwenburg & Lay, 1995; Steel & Ferrari, 2013) and studies which showed Conscientiousness as a strong predictor of specifically academic procrastination (e.g. Higgins et al., 2007; McCloskey, 2011).

Thomson (2008) explained that Conscientiousness manifests in certain characteristics such as carefulness, thoroughness as well as being neat and systematic, and according to Krauss Whitbourne (2012) the reason why individuals high in Conscientiousness are less likely to procrastinate, is that they are higher in qualities such as self-discipline, sense of responsibility, dutifulness, industriousness (or diligence), persistence and good use of time management.

Hirsch, DeYoung and Peterson (2009) argued that some of the processes underlying the Big Five personality traits, may best be understood in terms of the different systems that each major trait restrains or regulates. This view is consistent with certain process models linking for example Agreeableness to the inhibition of interpersonal aggression (Meier, Robinson, & Wilkowski, 2006), Emotional Stability with the inhibition of negative affect (Canli & Lesch, 2007), and Conscientiousness with the inhibition of distraction (Jensen-Campbell, Rosselli, Workman, Santisi, Rios, & Bojan, 2002). Further studies into these processes underlying the Big Five traits are consequently necessary to fully understand why individuals high in Conscientiousness are less likely to procrastinate.

5.3.5.2 Emotional Stability

Watson (2001), Chamorro-Premuzic and Furnham (2003), and Johnson and Bloom (1995) all found Neuroticism to be a predictor of procrastination. The current study showed Emotional Stability to be significantly negatively related to academic procrastination, or academic procrastination increases as Emotional Stability decreases. Since Emotional Stability is inversely referred to as Neuroticism, it can be inferred that an increase in Neuroticism causes academic procrastination to increase as well and the current study thus supports the previous research findings as expected. As mentioned, Canli and Lesch (2007) linked Emotional Stability to the inhibition of negative affect. According to Bidjerano and Dai (2007) low scores on Emotional Stability are generally associated with poor stress response, poor critical thinking skills and poor analytic and conceptual thinking skills, as well as with high anxiety.

Interestingly, Lee, Kelly and Edwards (2006) posited that Neuroticism cannot directly be linked to procrastination and that any relationship is fully mediated by Conscientiousness. This notion calls for further examination.

5.3.5.3 *Openness to Experience*

Openness to Experience is positively related to successful training activities and Barrick and Mount (1991) posit that the open individual's optimistic attitude toward and enjoyment of learning may positively impact the outcome of the training, but the same positive relation between Openness to Experience and academic achievement is, however, not always found (Busato, Prins, Elshout & Hamaker, 2000). This may be ascribed to the creative and imaginative nature of open individuals which could be a disadvantage in structured academic settings such as the high school context, especially when at times individuals need to simply reproduce content as opposed to solve problems creatively for example (De Fruyt & Mervielde, 1996).

Johnson and Bloom (1995) found no relation between Openness to Experience and procrastination and according to Steel (2007) no direct relationship between Openness to Experience and procrastination has yet been posited. However, the current study found Openness to Experience to be quite significantly negatively related to academic procrastination.

As mentioned, Costa and McCrae (1992a) identified six facets that make up the Openness to Experience dimension, namely, active imagination (or fantasy), aesthetic sensitivity, attentiveness to inner feelings, preference for variety, intellectual curiosity and values. The current study did not investigate each of these facets individually, however, as previous research has shown these facets to be significantly correlated (McCrae & John, 1991), Openness could be viewed as a personality trait consisting of a set of tendencies clustered together. Furthermore, the TIPI (Ten Item Personality Inventory) does not allow for investigation of all the individual facets of multi-faceted personality traits.

Openness to Experience, like the other four basic traits, shows high levels of differential stability across the adult lifespan (Terracciano, Costa, & McCrae, 2006), but

according to Costa and McCrae (2006) it shows a distinctive pattern of maturational trends which increases from early adolescence until the early 20s and then gradually declines again, a finding consistent with that of Roberts, Walton and Viechtbauer (2006). By means of the TIPI, the current study found a very high average score of 11 (from possible scores of 2 to 14) on Openness to Experience from all participants and as mentioned previously the average age of all participants was 15.37 years. The current study thus confirms the finding of Roberts et al. (2006).

The current study postulates that the negative relation seen between Openness to Experience and academic procrastination may be attributed to one or both of two factors. Firstly, the negative relation seen in this study could be due to the TIPI's inability to measure the individual facets of the multi-faceted construct, Openness to Experience (Gosling, Rentfrow & Swann, 2003). The study secondly hypothesises that the negative relation could be ascribed to the need for cognition, a construct which has not been examined in the current study and certainly needs future consideration. Need for cognition refers to the extent to which an individual "engages in and enjoys thinking" (Cacioppo & Petty, 1982, p. 1), and it has been found to be significantly related to epistemic curiosity, intellectual engagement (Mussel, 2010) as well as Openness to Experience, especially the ideas facet (Fleischhauer et al., 2010).

According to Litman's (2008, p. 1586) definition of epistemic curiosity as "the desire for knowledge that motivates individuals to learn new ideas, eliminate information-gaps, and solve intellectual problems". Similarly Goff and Ackerman's (1992) definition of typical intellectual engagement as an individual's enjoyment (or dislike) of intellectually challenging activities and Cohen, Stotland and Wolf's (1955) conceptualisation of need for cognition as a desire to challenge oneself cognitively and understand the experiential world, all these three constructs are clearly homogeneous to openness.

Mussel (2010) showed, by means of factor analysis, that measures of all four these constructs (openness to ideas, epistemic curiosity, intellectual engagement and need for cognition) load strongly onto a single factor which suggests they all share a common conceptual basis.

In their study to investigate the relationship between need for cognition and the big-five domains of personality in 85 undergraduates, Sadowski and Cogburn (1997) found that individuals who have a high need for cognition tend to be more open to experiences as well as more conscientious than are individuals who have a low need for cognition. Need for cognition consequently reflects openness, which is an eagerness and tolerance to novel ideas, as well as Conscientiousness, which is an eagerness to engage in effortful thought (Verplanken, Hazenberg, & Palenewen, 1992). In a mail survey on 165 adults from 10 Massachusetts communities in the USA, Spotts (1994) found need for cognition to be significantly negatively related to chronological age. In other words, with the increase in chronological age comes a decrease in need for cognition. From the findings discussed above, that need for cognition reflects openness and that need for cognition decreases with chronological age, it can be inferred that openness ought to decrease with chronological age as well. As stated, the present study found high school learners to have scored very high on openness, and they should accordingly have a high average need for cognition.

Furthermore, in a study on 138 university students from the Technical University in Slovakia, Sarmány Schuller (1999) found that high procrastinators have significantly lower need for cognition. Following this finding as well as that of Fleischhauer et al. (2010) that high need for cognition constitutes high Openness, it can be presumed that high Openness to Experience would result in low procrastination which the current study shows.

A significant negative correlation between need for cognition and neuroticism was also found by Sadowski and Cogburn (1997), which would inversely constitute a positive correlation between need for cognition and Emotional Stability.

It should however be considered that Mussel (2010) argued that although the four constructs (openness to ideas, epistemic curiosity, intellectual engagement and need for cognition) lack discriminant validity, they are not necessarily all theoretically equal because each one may emphasise certain facets of functioning more than others. Further studies examining these four constructs and their relation to one another as well as their relation to academic procrastination is accordingly essential.

5.3.5.4 Extraversion

The correlation between Extraversion and academic procrastination was negative, but not significant. As mentioned earlier, this finding is inconsistent with the findings of McCown, Petzel and Rupert (1987), which showed Extraversion and procrastination to be positively correlated. According to McCown et al. (1987) this finding is ascribed to extraverts being less able to maintain attention and concentration and thus being more susceptible to procrastination than introverts. Subsequent studies, however, found Extraversion to be negatively related to procrastination (Milgram & Tenne, 2000; Schouwenburg & Lay, 1995; Watson, 2001). This negative relationship may be due to higher self-esteem levels evident in extraverts (Swickert, Hittner, Kitos & Cox-Fuenzalida, 2004), which facilitates decision-making and task completion as well as higher social competence levels (Milgram & Tenne, 2000), which facilitates the availability and utilisation of required social support.

5.3.5.5 Agreeableness

Lastly, although Clariana (2013) found Agreeableness and procrastination to be inversely related ($r = -.11$) the correlation between Agreeableness and academic

procrastination in the current study although negative, was not significant. The current result is, however, in accord with the results of Johnson and Bloom (1995) as well as Watson (2001).

Steel (2007) proposed that procrastination might be better predicted by other personality traits, especially a high degree of impulsiveness and a lack of self-control.

Rozental (2014) explained that certain behaviour problems related to self-regulation, refer to these traits as key components.

5.4 Limitations and Recommendations

The present study emphasised the detrimental influence of academic procrastination on high school learners' academic achievement, and reiterated the negative relation between academic procrastination and Conscientiousness and Emotional Stability respectively. It moreover begged for further examination into the relation between academic procrastination and Openness to Experience, as well as postulated that the negative relation seen between Openness to Experience and academic procrastination may be attributed to one or both of two factors. Firstly, it could be due to the TIPI's inability to measure the individual facets of the Big Five domains and, secondly, it could be ascribed to the need for cognition, a construct which has not been examined in the current study and certainly needs future consideration.

Firstly, academic procrastination was only measured at one point in time in the present study. Presumably, students' procrastination levels fluctuate over time especially as deadlines or examinations approach (Rothblum, Solomon & Murakami, 1986). According to Solomon, Murakami, Greenberger and Rothblum (1983) procrastinators may decrease delay only once their anxiety reaches peak levels. It is, thus, viable to assess academic procrastination at various time intervals.

Secondly, as stated, even though the TIPI is a quick method to measure the five broad personality domains, it does not possess the ability to measure the individual facets of each

domain (Gosling, Rentfrow & Swann, 2003). Future studies examining personality traits should therefore perhaps utilise a measure such as the very comprehensive NEO-PI-R (Costa & McCrae, 1992b), which is a 240-item questionnaire evaluating the five major personality domains as well as the six facets that define each, or the Personality Assessment Inventory – Adolescent (PAI-A) developed by Morey (2007), which is designed specifically for the age range 12 to 18 years. The NEO-PI-R takes approximately 35 minutes to complete, whereas the PAI-A takes approximately 30 to 45 minutes.

Thirdly, the present study only examined one factor of SES namely area of residence, and additionally the number of siblings each participant has. The different factors of SES ought to be explored individually as well as collectively in order to obtain a better understanding of its relation to academic procrastination, especially within the South African context.

Lastly, the sample for the current study was obtained from three different private high schools in the North-West province and is thus not representative of all high school learners in South Africa. Additional studies with samples in wider areas, as well as in both private and public (state) high schools are thus needed for a comprehensive view on academic procrastination prevalence and its effects in high school learners across South Africa.

Cyber-slacking or online procrastination should also be investigated as it mostly has a negative connotation to productivity, however some studies suggest that cyber-slacking can also be beneficial even in terms of contributing to higher employee productivity levels (Oravec, 2002).

5.5 Final conclusion

The current study found a significant negative correlation between academic procrastination and academic grades, showing that academic grades decrease significantly as academic procrastination increases. The study further found that no significant difference

exists between male academic procrastination and female academic procrastination, as well as that there is no significant difference between the extent to which different age groups procrastinate academically. The present study further showed that no significant difference exists between how much learners living in rural as opposed to urban areas procrastinate academically. The number of siblings a learner has also showed not to be significant in terms of that learner's academic procrastination. Lastly, the current study showed some significant relationships between academic procrastination and certain personality types of individuals. Expectedly, results showed a significant negative correlation between conscientiousness and academic procrastination. Emotional Stability was shown to be significantly negatively related to academic procrastination. As Emotional Stability is inversely referred to as neuroticism, it can be deduced that an increase in neuroticism causes academic procrastination to increase as well. Interestingly, Openness to Experience was found to be negatively related to academic procrastination in a relatively significant way. The correlations between Extraversion and academic procrastination, and between Agreeableness and academic procrastination respectively, were not significant. Thus, further studies are warranted on the intricate relationships between personality traits and academic procrastination within the wider South African context.

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Appendix A: Clearance regarding use of measures

*Clearance regarding use of measures***The Ten Item Personality Inventory (TIPI)**

Gosling, S. D., Rentfrow, P. J., & Swann, W. B. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality*, 37, 504-528.

Gosling's Ten-Item Personality Inventory is in the public domain and may be used for any purpose with no restrictions. Information regarding clearance for use of measure retrieved from: <http://pages.uoregon.edu/sanjay/bigfive.html>

Tuckman Procrastination Scale (TPS)

Tuckman, B.W. (1991). The development and concurrent validity of the procrastination scale. *Educational and Psychological Measurement* 51(2), 473-480.

Appendix B: Personal Information Questionnaire (PIQ)

Personal Information Questionnaire (PIQ)

Please complete the following or where applicable, mark correct option with X.

School

Name & Surname

Age

Gender

Family size
(specify e.g. 1 brother, 1 step-sister)

Place of residence

Town & Suburb where you stay

Average academic grade on previous report card	35 % or below	36 - 40 %	41 - 45 %	46 - 50 %	51 - 55 %	56 - 60%	61 - 65 %	66 - 70 %
	71 - 75 %	76 - 70 %	71 - 75 %	76 - 80 %	81 - 85 %	86 - 90 %	91 - 95 %	96 - 100 %

Appendix C: Tuckman Procrastination Scale (TPS)

***Tuckman Procrastination Scale
(TPS)***

Each item will have one of the following responses:
Enter the response which BEST describes you in the given situation.

- A. That's me for sure!
- B. That's my tendency
- C. That's not my tendency.
- D. That's not me for sure!

- 1. I needlessly delay finishing jobs, even though they are important.
- 2. I postpone starting in on things I don't like to do.
- 3. When I have a deadline, I wait until the last minute.
- 4. I delay making tough decisions.
- 5. I stall on igniting new activities.
- 6. I am on time for appointments.
- 7. I keep putting off improving my work habits.
- 8. I get right to work, even on life's unpleasant chores.
- 9. I manage to find an excuse for not doing something.
- 10. I avoid doing those things which I expect to do poorly.
- 11. I put all the necessary time into even boring tasks, like studying.
- 12. When I get tired of an unpleasant job, I stop.
- 13. I believe in "keeping my nose to the grindstone."
- 14. When something is not worth the trouble, I stop.
- 15. I believe that things I do not like doing should not exist.
- 16. I consider people who make me do unfair and difficult things to be rotten.
- 17. When it counts, I can manage to even enjoy studying.

18. I am an incurable time waster.	<input type="checkbox"/>
19. I feel it is my absolute right to have other people treat me fairly.	<input type="checkbox"/>
20. I believe that other people don't have the right to give me deadlines.	<input type="checkbox"/>
21. Studying makes me feel entirely miserable.	<input type="checkbox"/>
22. I am a time waster now, and I can't seem to do anything about it.	<input type="checkbox"/>
23. When something is too tough to tackle, I believe in postponing it.	<input type="checkbox"/>
24. I promise myself I'll do something and then drag my feet.	<input type="checkbox"/>
25. Whenever I make a plan of action, I follow it.	<input type="checkbox"/>
26. I wish I could find an easy way to get myself moving.	<input type="checkbox"/>
27. When I have trouble with a task, it's usually my fault.	<input type="checkbox"/>
28. Even though I hate myself if I don't get started, it doesn't get me moving.	<input type="checkbox"/>
29. I always finish important jobs, with time to spare.	<input type="checkbox"/>
30. I look for a loophole or shortcut to get through a tough task.	<input type="checkbox"/>
31. When I'm done with my work, I check it over.	<input type="checkbox"/>
32. I get stuck in neutral even though I know how important it to get started.	<input type="checkbox"/>
33. I never met a job I couldn't lick.	<input type="checkbox"/>
34. Putting off until tomorrow is not the way I do it.	<input type="checkbox"/>
35. I feel work burns me out.	<input type="checkbox"/>

Tuckman, B. W. (1991). The development and concurrent validity of the procrastination scale. *Educational and Psychological Measurement, 51*(2), 473–480.

doi:10.1177/0013164491512022

Appendix D: Ten-Item Personality Inventory (TIPI)

Ten-Item Personality Inventory (TIPI)

Here are a number of personality traits that may not apply to you. Please write a number in the little block next to each statement to indicate the extent to which you agree with the statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other.

- 1 = Disagree strongly
- 2 = Disagree moderately
- 3 = Disagree a little
- 4 = Neither agree nor disagree
- 5 = Agree a little
- 6 = Agree moderately
- 7 = Agree strongly

I see myself as:

- 1. Extraverted, enthusiastic.
- 2. Critical, quarrelsome.
- 3. Dependable, self-disciplined.
- 4. Anxious, easily upset.
- 5. Open to new experiences, complex.
- 6. Reserved, quiet.
- 7. Sympathetic, warm.
- 8. Disorganised, careless.
- 9. Calm, emotionally stable.
- 10. Conventional, uncreative.

Name: _____

Appendix E: Letter to school



Dear Principal,

RE: RESEARCH STUDY

My name is Charine Joubert. I am currently completing a research report in fulfillment of my master's degree in psychology at the University of South Africa. This research aims to find a possible relationship between academic procrastination and academic performance. This study will contribute to the discipline of psychology to gain an in-depth understanding of the learners' procrastination habits, how it relates to academic performance, certain personality traits, age, family size and area of residence. The research is to take a place at a number of private schools in the area to gain a viable sample for the research endeavour.

I hereby ask permission to access learners and their parents/guardians' consent from your school who are willing to participate in my study. All volunteering participants in the study will remain anonymous in that, while their words will be made known, their identities will remain confidential. The questionnaire process will take approximately 30 minutes. Participants may refuse to answer any question and may withdraw at any point that they wish. Non-participation or withdrawal in the study will not have any negative consequences for you in any way.

Debriefing information resources will be provided to the participants. The completed questionnaires, scales and inventories will be included in the appendix of the final work with all identifying remarks and names changed. General feedback regarding the study's outcomes will be made available to all those interested. The final report will be made available through the Unisa libraries and the research may appear in academic journals of the profession or be presented at conferences.

You are in no way required to participate in this study. If you have any queries do not hesitate to ask me. It is necessary for me to obtain your informed consent before I can begin the study.



Your support is greatly appreciated.

Yours faithfully



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RE: RESEARCH STUDY ON PROCRASTINATION IN HIGH SCHOOL LEARNERS
(CONSENT)

School Principal – Consent

I am happy to let learners from my school take part in the study as explained above.

- I understand that all identifying information will be removed and only anonymous general results will be reported.
- I understand that learners can refuse to take part in the study.
- I understand that if a learner does not want to take part, it will not affect him/her in any way.

Signed _____ Principal

Printed name _____



Appendix F: Informed consent of parent/guardian and assent of participants



Dear Parent/Guardian,

RE: RESEARCH STUDY ON PROCRASTINATION IN HIGH SCHOOL LEARNERS

My name is Charine Joubert. I am currently completing a research report in fulfillment of my master's degree in psychology at the University of South Africa. This research aims to find a possible relationship between academic procrastination and academic performance. This study will contribute to the discipline of psychology to gain an in-depth understanding of learners' procrastination habits, how it relates to academic performance, certain personality traits, age, family size and area of residence.

I hereby ask permission for your son or daughter to take part, I would be very grateful if you could sign this form and return it to the school.

All volunteering participants in the study will remain anonymous in that, while their words will be made known, their identities will remain confidential. The questionnaire process will take approximately 30 minutes. Participants may refuse to answer any question and may withdraw at any point that they wish. Non-participation or withdrawal in the study will not have any negative consequences for you in any way.

Debriefing information resources will be provided to the participants. The completed questionnaires, scales and inventories will be included in the appendix of the final work with all identifying remarks and names changed. Feedback regarding the study's outcomes will be made available to all those interested. Feel free to contact me at the e-mail address below.

Many thanks for taking the time to read this letter and for your support it is much appreciated.

Yours faithfully





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RE: RESEARCH STUDY ON PROCRASTINATION IN HIGH SCHOOL LEARNERS
(CONSENT)

Parent / Guardian – Consent

I am happy to let my son/daughter (print name) _____ take part in the study as explained above.

- I understand that all identifying information will be removed and only anonymous general results will be reported.
- I understand that my son/daughter can refuse to take part in the study.
- I understand that if my son/daughter does not want to take part, it will not affect him/her in any way.

Signed _____ Parent/Guardian

Printed name _____

Student – Assent

I (print name) _____ am happy to take part in the study as explained above.

- I understand that all identifying information will be removed and only anonymous general results will be reported.
- I understand that I can refuse to take part in the study.
- I understand that if I do not want to take part, it will not affect me in any way.

Signed _____ Student

Printed name _____



Appendix G: Information letter to participant



Dear Learner,

RE: RESEARCH STUDY ON PROCRASTINATION IN HIGH SCHOOL LEARNERS

Information and Purpose: My name is Charine Joubert. I am currently completing a research report in fulfillment of my master's degree in psychology at the University of South Africa. This research aims to find a possible relationship between academic procrastination and academic performance. This study will contribute to the discipline of psychology to gain an in-depth understanding of the students' procrastination habits, how it relates to academic performance, certain personality traits, age, family size and area of residence.

Your Participation: Your participation in this study will consist of completing a personal information questionnaire, a Ten-Item Personality Inventory and the Tuckman Procrastination Scale, taken together lasting approximately 30 minutes. You may pass on any question you wish not to answer. At any time you may notify the researcher that you would like to stop your participation. There is no penalty for discontinuing participation.

Benefits and Risks: The benefit of your participation is to contribute information to the discipline of psychology. This may assist students with procrastinating habits in the future. There are no risks associated with participating in the study.

Confidentiality: Your name and identifying information will not be associated with any part of the written content you give. All of your information and responses will be kept confidential. The researcher will not share your individual responses with anyone other than the research supervisor.

If you have any questions or concern, please contact the researcher, Ms. Charine Joubert or her supervisor, Ms. Christine Laidlaw.

Yours faithfully

A handwritten signature in black ink that reads "Charine Joubert". The signature is written in a cursive style with a large initial 'C'.

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