

The Effect of Personality Traits on Procrastination and Cognitive Failures

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Submitted by:

Ankitdeep Kamboj

(861602003)

UNDER THE SUPERVISION OF

Dr. Sangeeta Yadav

Lecturer

School of Humanities and Social Science

Thapar Institute of Engineering and Technology

THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY

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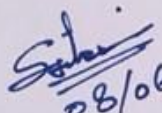
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(Dr. SANGEETA YADAV) LECTURER, SHSS

Thapar Institute, Patiala

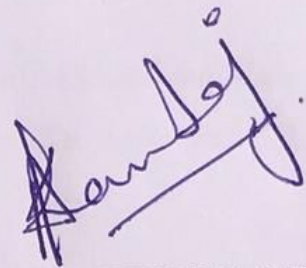
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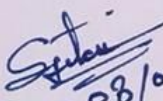
Date: 6th June, 2018

Place: Patiala



(ANKITDEEP KAMBOJ)

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08/06/18
(DR.SANGEETA YADAV)

Lecturer,

School of Humanities and Social Sciences,

Thapar Institute, Patiala.

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List of Abbreviations

N	Neuroticism
E	Extraversion
O	Openness to Experience
C	Conscientiousness
A	Agreeableness
Pro	Procrastination
M	Memory
B	Blunders
D	Distractibility
NM	Names
CFQ	Cognitive Failures Questionnaire
CF Total	Cognitive Failures whole

ABSTRACT

Personality traits are defined as a set of characteristics that define an individual's personality. A cognitive failure is an inability to complete a task, which a person can complete without any mistakes and difficulty. The habit of delaying or postponing of work and important tasks is known as procrastination. The present work is an attempt to know the whether personality traits effect procrastination and cognitive failures. The study also explored gender differences in personality traits, cognitive failures (including all its facets) and procrastination. The total of 160 (80 males, 80 females) college students voluntarily participated in the study by signing a consent form. The subjects administered the NEO-FFI personality questionnaire, Lay's Procrastination scale and Cognitive Failure Questionnaire. The results were subjected to Pearson's correlation, linear regression and t test. The results exhibited that procrastinating behaviour was correlated to a single trait of personality i.e. conscientiousness. The cognitive failures had a correlation with agreeableness and conscientiousness. Memory exhibited a correlation with conscientiousness and neuroticism. Distractibility was correlated to conscientiousness, agreeableness and neuroticism. Blunders exhibited a strong relationship with agreeableness and conscientiousness. Names correlated with a single trait of personality i.e. conscientiousness. The t-test results highlight gender differences in neuroticism, conscientiousness, CFQ Total, distractibility, blunders, names and procrastinating behaviour.

Keywords – personality traits, cognitive failures, procrastination, gender differences

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Chapter 1

INTRODUCTION

Personality is defined as a dynamic integration which includes an individual's personal experience as well as behavioural patterns. Personality can be taken as the combination of conscious, concrete, habits, self experiences and that of surrounding environment. It also includes a person's thoughts and cognitive functioning, and internal desires. An individual's personality also constitutes his patterns of behaviour which includes both conscious and unconscious. A person's personality traits affect many other dimensions of their life. The current research aims to study the effects of personality traits on procrastination and cognitive failures. There are many underlying factors that exhibit that procrastination and cognitive failures can be an outcome of different personality traits. The research work also aims to study the significant gender differences in personality traits, procrastination and cognitive failures.

1.1 Personality

The personality traits are the characteristics that are manifested through the behavioural patterns, thoughts and emotions of a person. The traits of personality are considered to be stable with time. The trait perspective theory of personality is one the most successful approaches in the study of personality. This approach focuses on the traits that form the major constitution of a person's personality. There are many theories which explain the personality traits. The roots of the history of trait perspective can be located in the ancient Greek history as well.

Hippocrates (370 B.C.) a Greek philosopher laid great emphasis on the four humors of the human body. He stated that all the constituents of our universe formed of four major

elements: fire, air, earth and water. Human body is not an exception to this constitution. Hippocrates linked the four basic constituents to the humors of our bodies. The earth was linked to black bile, yellow bile to air, blood with fire and phlegm to water. A healthy individual has a proper balance of all the four humors. (cited in Hergenhahn, 2008)

Galen (AD 130 - 200) extended the theory of humors proposed by Hippocrates. He associated the four human humors with four temperaments. He linked the four temperaments with the human personality. The four temperaments are: phlegmatic, sanguine, choleric and melancholic. The phlegmatic temperament is associated with phlegm, sanguine with blood, choleric with yellow bile and melancholic with black bile. The domination of phlegmatic temperament in a person is characterized by the traits like sluggish and unemotional. A person high on sanguine temperament is happy and cheerful. The people with high choleric temperament are quick tempered, fiery and aggressive. A melancholic person is depressed and sad. (as cited in Hergenhahn, 2008)

Franz Gall (1800) German anatomist believed that the personality traits were located in different areas of the brain and they could be measured by feeling bumps or fissures of the human skull. He discovered certain localized areas in the cerebral cortex, where the innate universe resided. He called these areas as “organs”. He started phrenology in order to understand a person’s intellect and personality by examining the skulls. (as cited in Hergenhahn, 2008)

William Sheldon (1940) explained personality traits with respect to the body types (somatypes). He categorized the body types into: endomorphy, mesomorphy and ectomorphy. According to him, the three traits of personality are: viscerotonia, somatotonia and cerebrotonia. These body types and various traits of personality have a

strong association with each other. Endomorphs are calm, high spirited and sociable. An ectomorph is entirely opposite to the endomorph. These people tend to be self conscious, socially anxious, creative, thoughtful, gentle, personal and reserved. The mesomorphs lie between the endomorphs and ectomorphs. The mesomorphs are daring and courageous. They like experimenting with new things and willing to hang out with new people. (as cited in Ryckman, 2012)

Allport (1968) gave a new outlook to personality trait theory. He used the term dispositions for traits. He put forward three types of dispositions; cardinal, central and secondary. The dominant and common traits in a person are known as cardinal dispositions. The central traits form the basic foundation of personality but are less prominent. These traits are used to define individual's personality, for example, intelligent, shy, modest, loyal, funny, sensitive etc. The secondary dispositions are less important, less consistent and less generalised. These traits may include a person's favourite food, music choices, clothing preferences etc. Allport also used idiographic approach to understand personality and focused on recognising unique traits of an individual.

Cattell (1965) describes traits as blocks which help in building the personality. He developed Sixteen Personality Factor (16PF) Questionnaire, by using 16 basic traits. These traits controlled a person's behaviour, which started from factor A till factor Q. The Factor A measures warmth, Factor B shows the reasoning ability, Factor C exhibits the emotional stability in a person, Factor E shows dominance, Factor F shows liveliness, Factor G exhibits rule consciousness, Factor H exhibits the social boldness, Factor I exhibits sensitivity, Factor L is related to vigilance, Factor M is related to abstractedness,

Factor N exhibits privateness, Factor O is related to apprehension, Factor Q1 shows openness to change, Factor Q2 shows self reliance, Factor Q3 exhibits perfectionism and Factor Q4 is related to tension.

Eysenck's (1964) classification is hierarchically organized and it involves traits, types and habits of a person. The types are abstract in nature. The type concept is based on a set of observed inter correlations among different traits. The responses of habits are based on the observable responses. These habitual responses inter correlate and infer with the each trait. He proposed two factors: introversion or extraversion and stability or neuroticism. Later on he added a third factor; impulse control/psychoticism. On the basis of these three factors Eysenck developed his first test called Eysenck Personality Questionnaire (EPQ). The primary dimensions of the questionnaire are extraversion, neuroticism and psychoticism.

Costa and McCrae (1985) gave the five factor model of traits of personality. The five factor model personality includes the following traits of personality: emotional stability, extraversion, and openness to experience, agreeableness and conscientiousness.

In the present study NEO FFI-R is used to measure the personality traits. The inventory measures the following five traits of personality:

Neuroticism (N) – It refers to the negative emotions such as anxiety, stress and excessive worrying experienced by a person. Individuals that score high on neuroticism are emotionally very sensitive and reactive. They respond emotionally to the events that generally won't affect majority of the people. They often perceive the ordinary situations as dangerous and threatening and small problems as major difficulties in their life. These negative emotions persist for a long duration and may cause problems in their social and

daily life. The individual's with score low on neuroticism are emotionally stable and less reactive.

Extraversion (E) – Extraversion is characterized by the pronounced intractability of the individual with the external world. Individuals high on extraversion are highly energetic, outgoing, enthusiastic and very interactive. The individuals scoring low on extraversion are very reserved, shy and disengaged from the social life.

Openness to Experience (O) – Scoring high on openness to experience means that the person is very curious and they are open to experimenting. The openness to experience exhibits the creativity, intellectual curiosity and imaginative. People with low scores on this trait are not open to change and experimenting. They are rational and conventional.

Agreeableness (A) – High scores on agreeableness shows that the person is affectionate, caring and empathetic towards others. People scoring low on agreeableness are less empathetic and less affectionate and hostile.

Conscientiousness (C) - High scores on conscientiousness exhibits that the person is well-organized, stable, focused and hardworking. Individuals with low score are spontaneous, unstable and not highly goal oriented.

1.2 Procrastination

Procrastination is the phenomenon of the modern era (Milgram, 1992). It is prevalent in countries where the life moves with a great pace and modern technology dominates the lives of people. The ancient Egyptians used two verbs which were later on translated and with the meaning to procrastinate. An attitude of avoiding unimportant tasks and on the other hand a lazy behaviour while doing an important work. Many researchers emphasise

on the fact that procrastination is entirely a concept of modern society, but such similar words have been used throughout the history, however with a little less negative associations. The word procrastination comes from a Latin word *procrastinare*, which means, to put off or delay until another day. The two words 'pro' and 'crastinus' together form the word procrastination. The word 'pro' means forward motion and the word 'crastinus' means belonging to another day. The word is frequently referred in the Latin texts, emphasising the military of Roman culture. The reference of this word by Romans shows importance of the delayed judgment, for example, it is better to wait the enemy out and show patience in military conflict. Thus, in ancient history, procrastination was confined to the wise and clever decision guiding when not to act, suppressing impulsiveness and taking actions without thinking of the consequences.

The trouble faced while studying and understanding the concept of procrastination is the difference in its subjective definitions. Unlike depression or anxiety it does not have well defined criteria. In a relationship a husband may accuse his partner of being a procrastinator, on the other hand the wife may call her husband as rigid or obsessed. In present times, there are varieties of definitions for procrastination.

Silver (1974) focuses the temporal component as the main theme while describing procrastination. According to him procrastination is not confined to task avoidance, it could be a logical decision in certain situations. The person does not intend to ignore the work that they are delaying, rather the person tries to put off the task for the appropriate time for starting the work and be sure of his task completion.

Silver and Sabini (1981) considered irrationality as a main character of procrastination and referred procrastination as a self defeating behaviour. Burka and Yuen (1983) also emphasised on the irrationality of procrastination (Ferrari, Johnson & McCown, 1995).

DeSimone (1993) focused on the cultural background of Greco-Roman civilization on procrastination. Especially, the Latin meaning, forward motion tomorrow is shaped by Greeks in the manner of progress and its antithesis, a missing of the mark. The missing of the mark concept in Greek has widely been translated into Western literature. Its impact through the New Testament is remarkable, where sin is the translated word. This implies that procrastination has been associated with the word sin. This has influenced various Medieval and Reformation philosophers. It is very difficult to separate this term from a Greco Roman culture. (Ferrari et al., 1995)

A very systematic and accurate definition is given by Milgram (1991), in which he focuses on basic four elements that are important for procrastinating behaviour which includes a behaviour sequence of postponement, consequential in a substandard behavioural product, involves a task which is perceived by a procrastinator as important to perform and leads to an emotional state which upsets a person. The definition by Milgram is quite precise and includes many aspects of the procrastinating behaviour; anyhow some researchers may disagree with its universality.

Max Weber (1926) describes deeply about the procrastinating behaviour. According to his ideology the procrastination does not always lead to an inefficient or substandard behaviour. It is usually a deliberate self motivating approach, which is adopted by the individuals who requires a strong stimulation so that they can be properly motivated. Many people perform well under stress of self manipulating deadlines. (Ferrari et al., 1995)

McCown and Roberts (1994) calls procrastination as dysfunctional and describe it as, a past time with optimal beginning point for the completing the important work and this work doesn't include unreasonable demands of personal costs connected with attempting

completion. While they describe the functional procrastination as a similar behaviour which is evoked for the actions that have a low probability of needing completion or having high costs associated with personal completion at the optimal time.

There are many approaches and theories that explain the causes of procrastination.

1.2.1 Psychoanalytical Approach

Freud's explanation on procrastination is one of the oldest theories which explain procrastination. Freud (1953) explains procrastination with respect to the avoidance of tasks. According to Freud, when an individual is unable to complete a certain work or task, there is a threat posed to the ego, which causes the avoidance of task. Freud states anxiety works as warning sign of the existing threat to the ego when the person faces the dangerous things that could not be realized. When this prevalent threat posed by the task is recognised by the ego, the mind uses defence mechanisms like avoiding task.

1.2.2 Psychodynamic Approach

The psychodynamic theorists do not favour the firm structure of Freudian views. However, they agree with other perspectives of human behaviour model proposed by Freud. The psychodynamic theorists believe that the early childhood memories and experiences leave a major impact on the person's future personality development. According to these theorists' emotions from one stage maybe symbolically expressed through different ways, other than the direct expression. The theorists focus on the symbolic part of procrastination because it is associated with the early childhood experiences and traumas. These traumas can leave an impression on the cognitive processes of a person. Missildine (1964) explains child development and procrastination

from the psychodynamic perspective. He coined the term chronic procrastination syndrome. The final manifestation of chronic procrastination syndrome is slow daydreaming paralysis regarding a task achievement. The slow performance of a person can be the outcome of unrealistic goals setting from parents and due to the condition attention and affection given by the parents. The tendency of procrastination in a child increases due to authoritative or permissive parenting style. The problems encountered due to authoritarian parents, physically or sexually abusive caretaker can result in procrastinating behaviour in later years of life.

1.2.3 Behaviouristic Approach

The reinforcement researchers believe that procrastination is increased by repeated individual's success of doing dilatory behaviour. As the classical learning theory states that behaviour occurs automatically via the provision of reinforcement or lack of punishment. The behaviouristic approach also explains that procrastination can be a result of an attempt of avoiding awful stimulus. Escape conditioning can enhance procrastination, which means an individual starts with a task and then stops it, this leads to an attitude of quitting before the target has been achieved. Avoidance conditioning can occur when a person makes extraordinary efforts in order to avoid a task. Ainslie (1975) in species reward theory postulated that a person will be conditioned to avoid task when he or she will receive reinforcement with different frequencies. It is commonly observed that people are choose the short term reinforcement rather than long term goals. The short term reinforcement gives pleasure and can be felt instantly. The procrastinators prefer choosing short term rewards. Such habitual behaviour creates hindrances in the achievement of long term goals because of the search for instant pleasure. This approach

for seeking pleasure causes increase in anxiety while working on a task. In the end it results in the avoidance of the task and a negative feedback which keeps reoccurring in future while performing certain tasks or activities.

1.2.4 Cognitive Approach

The cognitive approach to procrastination isn't that old yet it is popular than the other explanations. The approach states the major causes for procrastination are illogical and unrealistic beliefs, low self esteem and inability to make decisions and choices. All these are interconnected with one another. Ellis and Knaus (1977) stated that procrastinating behaviour is outcome of an emotional disturbance, which is a result of irrational thinking. For example, an irrational belief of doing something great which is beyond appreciation. Such thinking would result into negative consequences, when an individual is unable to achieve his goals. This faulty thinking causes the delay of work or initiating it because of the fear of failing. Therefore, the procrastinators blame the insufficient time or the hardness of the task as an excuse. The cognitive approach is similar to the Freudian explanation, but in the cognitive explanation the focus is not on the anxiety feelings that are the indicator of threat to ego. (as cited in Ferrari et al., 1995)

1.2.5 Temporal Motivational Theory (TMT)

Steel and Konig (2007) explains that time is a vital motivational factor and the impact of deadliness on the allocation of attention to a certain activity or work. As the deadline for a work approaches nearer, the perceived benefit of the work shows an in exponential increase. The temporal motivation theory proves out to be very helpful in understanding human behaviours and procrastination. The theory proclaims that motivation is influenced by time.

Pico economics or Hyperbolic Discounting, by Ainslie and Haslam (1992) stated that TMT explains the selection processes involved in a person's decision making. A person gives priority to the work that provides maximum utility. The tendency of procrastination increases, when an individual feels the utility of doing a work is very low. A derivation of picoeconomics postulates that the TMT maintains picoeconomics components, including; utility, delay of time, expectancy and sensitivity to delay. The simplified formula for TMT is:

$$Utility = Expectancy \times \frac{Value}{Sensitivity\ to\ delay} \times Time\ Delay$$

As per this representation, the expectancy and value are the numerator, and sensitivity to delay and time delay are the denominators. Expectancy refers to the perceived probability of success. The value time means the preferences that an individual has towards the work or activity. Sensitivity to delay indicates opting for the short term rewards. The time delay refers to the duration for obtaining results.

The personality traits can lead to or increase the frequency of procrastinating behaviour. Johnson and Bloom (1995) found that procrastination is strongly correlated to conscientiousness and neuroticism. The present study aims to explore the association of personality traits with procrastinating behaviour.

1.3 Cognitive Failures

Cognition refers to the mental processes which include awareness, memory, perception, reasoning, judging, imaging and problem solving. When an error or certain problem occurs in the processing of cognition it leads to cognitive failures. Cognitive failures are defined as the inability to carry on a task or activity in the correct manner, which can be

easily performed without any difficulty in a daily routine. Broadbent (1982) coined the term 'cognitive failures'. Broadbent referred cognitive failures as minor slips that interfere and cause disruption to the normal and smooth flow of the desired actions.

Reason and Mycielska (1982) define cognitive failures as absent mindedness, which means errors committed by people due to memory failures or the unpaid attention. The definition makes it clear that the cognitive failures are not due to the pathological reasons but instead they are the by-products of the normal operating of cognitive processes. The cognitive failures are the cognitively based mistakes on the activities that can be easily done by an average person. The origin of cognitive failure has been associated with attention problems, memory problems, problems or mistakes in implementing intentions, errors in metacognitive skills and problems in social interactions. The cognitive failures include memory lapses, blunders, forgetting names and appointments. Lapse of attention, memory failures and absent mindedness are the types of cognitive failures, which are commonly noticed in daily lives. Such cognitive failures lead to inconveniences; such as wastage of time and effort in the grocery store due to inability to remember the vegetables to buy. These types of cognitive failures generally do not cause serious consequences. In certain jobs and professions the cognitive failures can be very dangerous and life threatening; for example, if a doctor forgets his surgical instruments into the patient's body during the operation (Gawande et al., 2003). The cognitive failures are result of overloading of short term memory, reduced attention level, incidental learning and divided attention (Broadbent, et al., 1982).

Attention is required in our day to day activities and daily life. William James (1890) differentiated between active and passive attention. Active attention is controlled in a top

down manner by a person's expectations. While, passive attention is controlled in a bottom up manner through external stimuli; such as a loud noise. The capability of focusing and being attentive is the characteristic of the attention system. The attention system helps us to in doing our work. In spite of having such an efficient attention system, we sometimes encounter lapse of attention. For example, getting distracted by the loud music while reading a book or daydreaming about your weekend plans while sitting in an important lecture. Such attention failures are due the temporary shift of attention while performing a task. However, the lapse of attention leads to cognitive failures. These errors can be broadly divided into: retrospective memory failures, prospective memory failures and attention failures

Broadbent (1986) exhibited that everyday slips, tip of the tongue and memory lapses are closely related to attention. Forster and Lavie (2007) reported that high distractibility during the laboratory tasks had a moderate correlation with higher cognitive failures. Tipper and Baylis (1987) reported that people encountering greater number of cognitive failures reported with higher reaction times in tasks where a distracter was present in comparison to the individuals that scored lower on cognitive failures.

Divided attention takes place when two stimulus inputs are presented at the same time. Divided attention involves multitasking, which is a crucial aspect of the modern world. Studies on divided attention throw light on the processing limitations and the capacity of attention systems. Our capacity to attend more than one stimulus and tendency to perform multitasks has its limitations. When attention is divided, the task efficiency is decreased, thus leading to poor task performance. However, this happens because of interference, which occurs when brain is able to process only limited information. The

cognitive load theory was proposed Sweller (1988), who proposed the cognitive approach to the problem solving. According to his cognitive load theory the instructions through worked examples proved out to be superior test outcomes in comparison to practice only instructions. As a result, worked example helped in reducing the cognitive load in a person's working memory.

Working memory is the memory that stores information for a very short span and informs manipulation of information (Baddeley, 2010). The central executive is the attentional control system which has a very limited capacity and plays a crucial role in controlling actions. Working memory and executive control helps a person to carry out their everyday tasks and in processing all the relevant and important information. Kane (2007) and McVay (2009) reported that the lapses that occur in the executive control and the objective working memory, which included thoughts that were not related to task while doing laboratory tasks, were reported to linked with cognitive failures. Kane (2007) also reported that these findings were only true in case of some levels of cognitive load. The individuals with high working memory capacity had higher cognitive failures while performing less challenging tasks. It is observed that boredom and lack of interest leads to day dreaming and wandering of mind which leads to increase in errors and cognitive failures.

The physiological reasons for cognitive failures exhibit that the increase in parietal grey matter leads to major distractions in daily life (Kanai, 2011; Sandberg, 2014). The visual cortex selectivity is governed by an inhibitory neurotransmitter called gamma amino butyric acid (GABA). The reduction of this neurotransmitter in the occipital lobe results in the increased probability of cognitive failures (Sandberg, 2014). These research

studies depict that high neural density may indicate the inadequate synaptic pruning during the development and the low GABA levels may lead to a limited potential of selectively suppress the sensory information. The levels of GABA neurotransmitter and the grey matter volumes of the parietal lobe explain inter individual variation in failures. Therefore, the cognitive failures are heritable.

The cognitive processing and functioning is affected by the sleep patterns and the circadian cycle of an individual. Wilkerson et al. (2011) reported that insomnia is leads to increase in cognitive failures and has a significant impact on the mood and the stress level of an individual. Wallace (2003) found that boredom triggers daytime sleeping and leads to distractibility, therefore causing increase in cognitive failures.

Many studies report a close relation between different personality traits and cognitive failures. Cognitive failures are frequently related to negative affect; neuroticism, anxiety, stress and depression. Klockner and Hicks (2014) reported a significant relation is a between neuroticism and cognitive failures. The present study focuses on the association of different personality traits on cognitive failures.

Chapter 2

LITERATURE REVIEW

The following researches have been conducted in past that have focused on the traits of personality, procrastinating behaviour, cognitive failures and the gender differences in all the three variables.

2.1.1 Personality and Procrastination

Johnson and Bloom (1995) studied impact of personality traits on procrastination on 202 undergraduate students. The results show that conscientiousness was negatively correlated to procrastination. A significant correlation of neuroticism and procrastination was observed in the results. While the agreeableness, extraversion and openness to experience did not show significant correlation with procrastination.

Watson (2001) examined 349 university students on NEO PI-R and found that neuroticism and its facets (depression, anxiety, self consciousness, impulsiveness and vulnerability) are the major reason of procrastinating behaviour. The results showed that procrastinating behaviour had a strong correlation with low conscientiousness facets and neuroticism and its facets. A small association of conscientiousness and neuroticism facets with fear of failing, trouble in taking decisions and dependency was reported. Agreeableness was negatively related to risk taking.

Lay, Kovacs and Danto (1998) explored the association between procrastinating behaviour and conscientiousness in the younger children (149 females and 131 males from grade third to grade five from three different schools). The teachers of the students participating in the study were instructed to give rating to the students on their

procrastinating behaviour also a rating on facets of conscientiousness. The facet ratings of conscientiousness were combined to get a single conclusion on conscientiousness. A correlation was reported between the rating of teacher and self report scores of the student. The researchers found that cause of procrastination is lack of conscientiousness.

Steel (2007) found that procrastinators have personality traits which are associated with emotions and memory. The academic procrastination can constitute delaying in homework or assignments until a deadline. Such behaviour can result into problems like anxiety, stress, depression and low self esteem.

Irfan et al. (2015) researched on “Relationship among personality traits, procrastination and coping strategies”. They found a negative correlation between procrastinating behaviour, conscientiousness, agreeableness and openness to experience. A positive correlation was observed between extraversion, neuroticism and procrastination.

Fabio (2006) conducted a study, “Decisional procrastination correlates: personality traits, self esteem and cognitive failure?” The results show that decisional procrastination, cognitive failures and neuroticism are positively correlated. A weak correlation was reported in procrastinating behaviour and conscientiousness. Procrastinating behaviour and extraversion had a negative correlation. Procrastination in decision making may indicate a tendency of forgetting and memory absence, which further leads to cognitive failures.

Varma (2017) in a study on the relation between procrastinating behaviour and the big five traits of personality there is no relation between the traits of personality and procrastinating behaviour. She also reported in her research that males and females of professional courses did not differ in the procrastinating behaviour.

2.1.2 Personality Traits and Cognitive Failures

A study by Klockner and Hicks (2014), on “Cognitive Failures at Work, Mindfulness and Big Five” suggests that neuroticism and cognitive failures are strongly correlated. The results show that extraversion, conscientiousness and openness to experience did not show any significant correlation with cognitive failures and its other four facets.

Murphy and Dalton (2014) conducted a study on the relationship between distractibility in daily life and performance on auditory selection task. The study found that a strong relation between cognitive failure scores and unrelated distracter. The individuals that reported higher on distraction in daily life experienced greater interference from the irrelevant distracter in comparison to the individuals scoring low on cognitive failures.

Kamiya (2013) researched on the connection between involuntary autobiographical memories and cognitive failures. The results showed that cognitive failures in daily memory and involuntary autobiographical memories had a positive correlation. Individuals that reported higher troubles in daily life memory were higher on the frequency of involuntary memories.

Payne and Schnapp (2014) found in their study that negative affective experiences are significantly correlated with the memory, cognitive failures, distractibility, and blunders but not with names. The positive affect was negatively correlated to distractibility.

Wright and Osborne (2005) researched on the association between dissociation, cognitive failures and working memory. The results of the study were opposite to that of the previously claimed researchers. They reported that dissociation, cognitive failures and interference from the secondary working memory tasks were not associated to each other.

Wallace et al (2002) studied a relationship between cognitive failures, boredom and daytime sleepiness on military and undergraduates. The results exhibited that daytime sleepiness leads to higher cognitive failures. The military participants had more daytime sleepiness and scored higher on cognitive failures.

Fabio (2006) conducted a study, “Decisional procrastination correlates: personality traits, self esteem and cognitive failure?” The results show that decisional procrastination, cognitive failures and neuroticism are positively correlated. A weak correlation was reported in procrastinating behaviour and conscientiousness. Procrastinating behaviour and extraversion had a negative correlation. Procrastination in decision making may indicate a tendency of forgetting and memory absence, which further leads to cognitive failures.

2.1.3 Gender and Personality

Lynn and Martin (1997) conducted a study in 37 different nations to find the gender differences in extraversion, neuroticism and psychoticism. The results reported that in all 37 countries females scored higher on neuroticism than men. Males proved out to be more extroverts in majority of the countries. The consistency of the results suggests that the genetic reasons can be the major factor in gender differences.

Costa et al. (2001) researched on role of gender and gender differences in various personality traits in different cultures. The results showed that females were more neurotic, agreeable, warmth and open to feelings. The males were more assertive and open to ideas. This research laid emphasis on the biological, social and evolutionary theories and ideas of gender differences.

Menon et al. (2014) conducted a study in Indian setting on personality and mindfulness. Total of 66 students of Diploma in Yoga Education participated in the study (26 females and 40 males). The study surprisingly did not find any significant gender difference in neuroticism (N). The possible reason for the results in this trait could be due to high variance of N in the female sample in comparison to the males.

Feingold (1994) conducted a research to see the relationship between personality traits and gender differences. He verified the research conducted by Maccoby and Jacklin (1974) on various personality inventories data that are widely used and the role of gender difference in the traits of personality. He reported that females were less assertive than men but high on extraversion, anxiety, trust and nurturance.

Goodwin and Gotlib (2004) found that the levels of neuroticism are higher in females and they experience depression more than males. The results of the study exhibited that neuroticism has a crucial part between female gender and severe depression. In this study the females were reported higher on extraversion.

2.1.4 Gender and Procrastination

Lai et al. (2015) examined the Malaysian students for examining the relationship between different traits of personality and procrastinating behaviour. The study reported there is no relationship between traits of personality and procrastinating behaviour. No significant gender differences were reported in the procrastination. The study exhibited that cultural differences is not common in Malaysia and therefore males and females are considered equal in all aspects.

Ozer and Ferrari (2009) studied procrastination among 784 Turkish students and reported that males procrastinated more than females. Males tend to procrastinate because they are open for risk taking and revolt against the control.

Wazid et al. (2016) reported in their research on procrastination in students. The study also explored the effect of gender role on perfectionism and self esteem. The results revealed that males tend to procrastinate more than females.

Varma (2017) in a study on the relation between procrastinating behaviour and the big five traits of personality there is no relation between the traits of personality and procrastinating behaviour. She also reported in her research that males and females of professional courses did not differ in the procrastinating behaviour.

Balkis and Daru (2009) conducted a study on 580 university students of Pamukkale University; 329 females and 251 males. Their study results exhibited that males have more tendency of procrastinating behaviour.

Khan et al. (2014) reported in their work that males tend to be higher on procrastinating behaviour than females. They stated that level of motivation has a deep impact on the procrastinating behaviour. This behaviour of delaying the work is also affected by the problems related to emotions and behaviour.

2.1.5 Gender and Cognitive Failures

Boomsma (1998) conducted a study to check the contribution and influence of genetics on the cognitive failures. The genetic analytical study was done on the Dutch adolescents' twins and their parents. He found that the contribution of heritability was about fifty percent. There was no relation between the scores of the cognitive failures, age and the level of education. It was reported in the research that females scored more in the cognitive failures than males.

Bridger et al. (2013) reported a significant gender difference in cognitive failures, in which females scored higher than males.

Kanai et al. (2011) reported that distractibility is closely related to the structure and functioning of the parietal cortex. Their studies had females scoring more on distractibility than males. The study reported a positive correlation for the left parietal lobe of the brain and the density of gray matter.

Herlitz et al. (1997) reported gender differences in the episodic memory. Women performed better than males on the tasks associated with episodic memory. Females performed better than boys in tasks like word reorganization and their recalling. Both males and females performed on equal levels in semantic memory.

2.2 Research Gap

There is a lot of research that has been reported in the past where they have taken two of the three variables in a single study. However, very few studies have been reported that include all the three variables; personality traits, procrastination and cognitive failures in a single study. There is a lot of variation and gap in the studies of cognitive failures. Many individual studies have been conducted on the facets of cognitive failures; which include memory, distractibility, blunders and names. Still not many studies have been reported on all the four facets of cognitive failures in a single study. The studies referring to the gender differences in traits of personality and cognitive failures have shown better consistency in comparison to the procrastinating behaviours. Hence, I decided to explore all three variables in my study and examine deeply about the relationship and influence of personality traits on procrastination and cognitive failures.

Chapter 3

MOTIVATION, OBJECTIVES, RATIONALE, HYPOTHESES AND SIGNIFICANCE OF THE STUDY

3.1 Motivation of the study

The main motive of the current study was to examine the effects of personality traits on procrastination and cognitive failures. The study also explored the gender differences in traits of personality, procrastination and cognitive failures. The personality traits include set of characters that form the foundations of a person's character. These personality traits can influence many other aspects of a person's life. In the present work the focus has been laid on procrastination and cognitive failures. The previously conducted research has either focused on one of these variables or two. There are very few studies that have taken all the three variables into account. Majority of the studies combine cognitive failures with decisional procrastination. There is very little research work that has studied general procrastination and cognitive failures in a single research work. Even if we consider the three variables separately; there is more number of studies on academic and decisional procrastination, whereas work on general procrastination is comparatively less. In past studies cognitive failures are taken into account with age, cognitive failures due to accidents, injuries and psychiatric disorders. In this study cognitive failures in everyday life are taken into consideration; the area which is less explored.

The present research also examined whether there are gender differences in procrastination, personality traits and cognitive failures.

3.2 Objectives of the present research

1. To study the effect of different personality traits on cognitive failures.
2. To study the effect of different personality traits on procrastination.
3. To study the gender differences in personality traits, procrastination and cognitive failures.

3.3 Rationale and Hypotheses of the study

Taking the above mentioned objectives of the study into account following hypotheses was formulated.

H₁: There is effect of personality traits on procrastination.

Watson (2001) in his study found that neuroticism and low conscientiousness are the two major reasons of procrastinating behaviour.

Lay et al. (1998) reported that the lack of conscientiousness leads to high procrastinating behaviour.

Irfan et al. (2015) in their study reported a negative correlation between procrastinating behaviour, conscientiousness, openness and agreeable traits of personality. The correlation between extraversion, neuroticism and the procrastinating behaviour was recorded as negative.

On the account of previously carried research works following hypotheses were proposed:

H_{1.1}: Lack of conscientiousness leads to increase in procrastinating behaviour.

H_{1,2}: Lack of openness to experience and agreeableness leads to increase in procrastinating behaviour.

H_{1,3}: Neuroticism and extraversion leads to increase in procrastinating behaviour.

H₂: There is effect of personality traits on cognitive failures.

Klocher and Hicks (2014) reported that people high on neuroticism are higher on cognitive failures. However, the results exhibited that CF Total and its four facets were not related to extraversion, conscientiousness and openness to experience.

Payne and Schnapp (2014) found in their study that negative affects, memory, CFQ Total, distractibility and blunders share a strong relationship.

H_{2,1}: Neuroticism leads to increase in cognitive failures (memory, blunders, distracters and names).

H_{2,2}: Lack of conscientiousness leads to increase in cognitive failures (memory, blunders, distracters and names).

H_{2,3}: Lack of agreeableness leads to increase in cognitive failures (memory, blunders, distracters and names)

H_{2,4}: Openness to experience and extraversion have no effect on cognitive failures

H₃: There are gender differences in personality traits.

Costa et al. (2001) reported in their research study that physiological, evolutionary and social influences have a major influence on a person's personality traits. All the three factors contribute in the differences in personalities of women and men. According to their results females are more neurotic, agreeable and open to feelings. The males were more assertive and open to ideas as per their recorded results.

Lynn and Martin (1997) conducted a study in 37 different nations to find the gender differences in extraversion, neuroticism and psychoticism. The results reported that all 37 nations females scored higher on neuroticism and males proved out to be higher on extraversion.

On the account of previously carried research work following hypotheses were proposed:

H_{3.1}: Females are more on neuroticism than males

H_{3.2}: Males are higher on extraversion in comparison to females

H_{3.3}: Females are higher on agreeableness than males

H_{3.4}: Females are more conscientious than males

H_{3.5}: There is no gender difference in openness to experience

H₄: There are gender differences in Procrastination.

Ozer and Ferrari (2009) studied procrastination among 784 Turkish students and reported that males procrastinated more than females. Wazid et al. (2016) reported in their research that males tend to procrastinate more than females.

The following hypothesis was postulated:

H_{4.1}: Procrastinating behaviour is more common in males than females

H₅: There are gender differences in Cognitive Failures.

The research works on cognitive failures and the gender differences exhibit that females report higher on cognitive failures and its facets in comparison to males. A study by Bridger et al., (2013) reported a significant gender difference in cognitive failures, in which females scored higher than males.

H_{5.1}: Cognitive failures (memory, blunders, and distracters) are more common in females than males.

H_{5.2}: Cognitive failures in names are more common in males than females.

3.4 Significance of the study

The current research examined the effects of different personality traits on procrastination and cognitive failures. The study provided a deeper look into the gender differences in these three variables. There is a possible reason that procrastinating behaviour may be an outcome of certain traits of personality like lack of conscientiousness, high neuroticism, high on extraversion, low levels of agreeableness and openness to experience. The different traits of personality maybe the underlying cause of cognitive failures or may lead to increase in cognitive failures. Cognitive failures that occur in everyday life of an individual can prove out to be self defeating and dangerous for others as well. There are very few studies that have examined the cognitive failures that a person encounters on daily basis. The studies that have been reported in past have not considered all three variables in a single research. Therefore, the present research is an attempt to provide a deeper analysis of cognitive failures, procrastination and personality traits.

Chapter 4

METHODOLOGY

4.1 Sample

Total of one hundred and sixty volunteers (80 males and 80 females) of the age range 18 to 25 years participated in the study. The purposive sampling technique was chosen to select the participants. The volunteers were from the normal population of different colleges of Punjab, India

4.2 Design

Independent Variable: Personality Traits and Gender

Dependent Variable: Cognitive Failures and Procrastination

4.3 Statistical Analysis

In the present research work descriptive statistics, i.e. mean and standard deviation and t test were computed. In order to know the relationship between different variables correlation was done. For further analysis of the variables linear regression was used.

4.4 Tools Used

Neo Five Factor Inventory- Revised (NEO FFI-R) – The questionnaire has sixty questions, 12 per domain and belonging to five categories: extraversion, openness to experience, agreeableness, conscientiousness and neuroticism. The questionnaire is derived from the original 240 items scale by Costa & McCrae, 1992. The responses are marked from strongly disagree (1) till strongly agree (5).

Cognitive Failures Questionnaire (CFQ) – The revised version of Cognitive Failure Questionnaire by Wallace, Kass and Stanny (2002) was used in the research. The original questionnaire was developed by Broadbent (1982). The questionnaire has 25

items which are to be responded with the suitable response from never (1) to always (5). The questionnaire has four domains; memory, blunder, distractions and names. The scores of CFQ can be from 0 to 100.

The General Procrastination Scale (GPS) – The questionnaire was developed in 1988 by Lay. There are twenty questions in this questionnaire. The participants have to respond from extremely uncharacteristic (1) to extremely characteristic (5).

4.5 Procedure

The information and consent forms were given to all the participants. The participants were informed about the confidentiality of their personal information. The participants were given three questionnaires; NEO FFI, CFQ and GP-S. The instructions were well explained to all the participants.

Chapter 5

RESULTS

The mean, standard deviation and t-test for all the variables were computed i.e. neuroticism, extraversion, openness to experience, agreeableness, conscientiousness, CF Total, memory, distractibility, blunders, names and procrastination.

Table 1: Mean, standard deviation and t test for males and females for all the variables studied in the research; personality traits (extraversion, openness to experience, agreeableness conscientiousness and neuroticism), cognitive failures (CF Total, memory, distractibility blunders and names) and procrastination.

Variables	Males			Females		t test
	Total	Mean	SD	Mean	SD	
Neuroticism	80	35.8	4.91	39.74	4.78	-5.02**
Extraversion	80	39.2	5.05	39.31	4.65	-.08
Openness to experience	80	38.37	5.00	38.76	4.19	-.53
Agreeableness	80	36.34	4.82	37.47	4.97	-1.46
Conscientiousness	80	39.18	4.33	41.16	4.11	-2.97**
CF Total	80	65.33	9.63	72.83	14.77	3.80**
Memory	80	19.89	4.73	20.91	5.63	1.24
Distractibility	80	23.73	4.24	26.59	5.73	3.58**
Blunders	80	18.46	3.59	19.94	4.15	2.40**
Names	80	5.39	1.95	3.25	1.06	8.58**
Procrastination	80	61.03	7.32	57.72	8.55	2.62**

* $p < .05$, ** $p < .01$

The results show that females ($M = 39.74$, $SD = 4.78$) reported significantly higher on neuroticism than males ($M = 35.8$, $SD = 4.91$), $t = -5.02$, $p < .01$.

The study did not show any significant gender differences in levels of extraversion, males ($M = 39.2$, $SD = 5.05$) and females ($M = 39.31$, $SD = 4.65$), $t = -.08$, $p = n.s.$ (non significant).

Males ($M = 38.37$, $SD = 5.005$) and females ($M = 38.76$, $SD = 4.19$) had no significant gender differences on the openness to experience, $t = -.53$, $p = n.s.$

Males ($M = 36.34$, $SD = 4.82$) and females ($M = 37.47$, $SD = 4.97$) exhibited no difference in gender on the agreeableness level, $t = -1.46$, $p = n.s.$

Males ($M = 39.18$, $SD = 4.33$) and females ($M = 41.16$, $SD = 4.11$) significantly differed on levels of conscientiousness, $t = -2.97$, $p < .01$. Females scored significantly higher on levels of conscientiousness.

Females ($M = 72.83$, $SD = 14.77$) reported significantly higher on CF (Total) than males ($M = 65.33$, $SD = 9.63$), $t = 3.80$, $p < .01$.

The study showed no significant differences on the memory, females ($M = 20.91$, $SD = 5.63$) and males ($M = 19.89$, $SD = 4.24$) $t = 1.24$, $p = n.s.$

Females ($M = 26.59$, $SD = 5.73$) reported significantly higher than males ($M = 23.73$, $SD = 4.24$) on distractibility, $t = 3.58$, $p < .01$.

Females ($M = 19.94$, $SD = 4.15$) scored significantly higher than males ($M = 18.46$, $SD = 3.59$) on the levels of blunders, $t = 2.40$, $p < .01$.

Males ($M = 5.39$, $SD = 1.95$) reported significantly higher on names than females ($M = 3.25$, $SD = 1.06$), $t = 8.58$, $p < .01$

Males ($M = 61.03$, $SD = 7.32$) reported significantly higher on procrastination than females ($M = 57.72$, $SD = 8.55$), $t = 2.62$, $p < .01$.

Table 2: The Correlation between traits of personality, procrastination and cognitive failures.

	N	E	O	A	C	CFT	M	D	B	NM	PRO
N	1										
E	-.29**	1									
O	-.003	.10	1								
A	-.09	.06	-.05	1							
C	.48	.17*	.18*	.10	1						
CFT	.14	-.04	-.07	-.24**	-.29**	1					
M	.16*	-.09	-.12	-.13	-.28**	.84**	1				
D	.19*	.043	-.04	-.24**	-.20**	.85**	.58**	1			
B	.77	-.022	.037	-.24**	-.19*	.77**	.50**	.52	1		
NM	0.14	-.10	-.10	-.11	-.23**	.56**	.34**	.38	.38**	1	
PRO	0.01	.032	-.04	-.13	-.30**	.36**	.28**	.28	.31**	.23**	1

* $p < .05$ ** $p < .01$

(N = Neuroticism, E = extraversion, O = openness to experience, A = agreeableness, C = conscientiousness, CF Total = cognitive failures total, M= memory, D = distractibility, B = blunders, NM = names and pro = procrastination)

The correlation results shows that neuroticism and extraversion have a negative correlation $r = -.28$, $p < .01$. Neuroticism and memory are significantly correlated, $r = .16$, $p < .05$. A positive correlation is exhibited between neuroticism and distracters, $r = .190$, $p < .05$. There is no significant correlations of neuroticism with openness to experience ($r = -.003$), agreeableness ($r = -.09$), conscientiousness ($r = .48$), CFQ Total ($r = .148$) blunders ($r = .77$), names ($r = .13$) and procrastination ($r = .01$), $p = n.s.$

Extraversion and conscientiousness are positively correlated ($r = .17$) $p < .05$. Openness to experience and conscientiousness are positively correlated ($r = .18$, $p < .05$). Agreeableness is negatively correlated with CFQ Total ($r = -.24$), distracters ($r = -.24$) and blunders ($r = -.24$), $p < .01$. Conscientiousness is negatively correlated to CFQ Total ($r = -.29$), memory ($r = -.28$), distracters ($r = -.20$), names ($r = -.23$), procrastination ($r = -.30$), $p < .05$ and blunders ($r = -.19$), $p < .01$.

CF Total is positively correlated to memory ($r = .84$), distracters ($r = .85$), blunders ($r = .77$), names ($r = .56$) and procrastination ($r = .36$), $p < .05$. Memory is positively correlated to blunders ($r = .58$), distracters ($r = .50$), names ($r = .34$) and procrastination ($r = .28$), $p < .01$. Blunders is positively correlated to distracters ($r = .52$), names ($r = .38$) and procrastination ($r = .29$), $p < .01$. The distracters is positively correlated to names ($r = .38$) and procrastination ($r = .31$), $p < .01$. The names is positively correlated to procrastination ($r = .23$), $p < .01$.

Table3: Linear regression between traits of personality, cognitive failures and procrastination

Independent variable	Dependent variable	B	Std Error	Beta	t	Adjusted R Square
C	CF Total	-.86	.228	-.29	-3.805**	.07
O		-.20	.224	-.07	-.936	.001
E		-.10	.213	-.04	-.50	.005
A		-.63	.204	-.242	-3.13**	.05
N		.36	.196	.145	.078	1.84
O	Memory	-.14	.008	-.12	-1.62	.01
C		-.34	.092	-.28	-3.73**	.07
E		-.09	.085	-.09	-1.13	.002
A		-.14	.084	-.13	-1.72	.01
N		.16	.079	.16	2.07*	.02
O	Distractibility	-.05	.090	-.04	-.57	.004
C		-.24	.094	-.20	-2.64**	.03
E		.04	.008	.04	.54	.004
A		-.25	.082	-.24	-3.10**	.05
N		.19	.078	.19	2.43*	.03
O	Blunders	.03	.068	.03	.47	.005
C		-.17	.071	-.19	-2.4*	.03
E		-.01	.065	-.02	-.28	.006
A		-.19	.062	-.24	-3.13*	.05
N		.05	.060	.07	.97	.006
O	Names	-.04	.033	-.10	-1.37	.005
C		-.10	.034	-.23	-3.05**	.050
E		-.03	.031	-.10	-1.26	.004
A		-.04	.031	-.11	-1.49	.008
N		-.05	.029	-.13	1.74	.013
O	Procrastination	-.08	.140	-.04	-.62	.004
C		-.57	.142	-.30	-4.04**	.08
E		.05	.133	.032	.40	.005
A		-.21	.130	-.13	-1.66	.011
N		.02	.124	.01	.177	.006

* $p < .05$, ** $p < .01$

(O= openness to experience, C= conscientiousness, E= extraversion, A= agreeableness, N= neuroticism CF Total = cognitive failures scores)

The adjusted R^2 for conscientiousness is .07 and the B value is -.86. The results exhibit that 7% variance in cognitive failures can be attributed to conscientiousness. The B value specifies that one unit increase in conscientiousness will lead to .86 decrease in cognitive failures. ($p < .01$)

The adjusted R^2 for agreeableness is .05 and the B value is -.63. The results show that 5% variance in cognitive failures can be attributed to agreeableness. The B value specifies that one unit increase in agreeableness leads to .63 units decrease in cognitive failures. ($p < .01$)

The adjusted R^2 for conscientiousness is .07 and the B value is -.34. The results show that 7% variance in memory can be attributed to conscientiousness. The B value shows that one unit increase in conscientiousness leads to .34 units decrease in memory. ($p < .01$)

The adjusted R^2 for neuroticism is .02 and the B value is .16. There is 2% variance in memory which can be attributed to neuroticism. The B value shows that one unit increase in neuroticism leads to one unit increase in memory. ($p < .05$)

The adjusted R^2 for conscientiousness is .03 and B value is -.24. There is 3% variance in distractibility which can be attributed to conscientiousness. The B value shows that one unit increase in conscientiousness leads to .24 decrease in distractibility. ($p < .05$)

The adjusted R^2 for agreeableness is .05 and the B value is -.25. The results show that 5% variance in distractibility which can be attributed to agreeableness. The B value shows that one unit increase in agreeableness leads to .25 units decrease in distractibility. ($p < .01$)

The adjusted R^2 for neuroticism is .03 and the B value is .19. The results show 3% variance in distractibility can be attributed to neuroticism. The B value shows that one unit increase in neuroticism leads to .19 units increase in distractibility. ($p < .05$)

The adjusted R^2 for conscientiousness is .03 and the B value is -.17. The results show 3% variance in blunders can be attributed to conscientiousness. The B value shows that one unit increase in conscientiousness leads to .17 units decrease in blunders. ($p < .05$)

The adjusted R^2 for agreeableness is .05 and the B value is -.19. The results show 5% variance in blunders can be attributed to agreeableness. The B value shows that one unit increase in agreeableness leads to .19 units decrease in blunders. ($p < .05$)

The adjusted R^2 for conscientiousness is .05 and the B value is -.10. The results show 5% variance in names can be attributed to conscientiousness. The B value shows that one unit increase in conscientiousness leads to .10 units decrease in names. ($p < .01$)

The adjusted R^2 for conscientiousness is .08 and the B value is -.57. The results show that 8% variance in procrastination can be attributed to conscientiousness. The B value shows that one unit increase in conscientiousness leads to .57 units decrease in procrastination. ($p < .01$)

Figure 1. Graphical representation of linear regression for cognitive failures, conscientiousness and agreeableness.

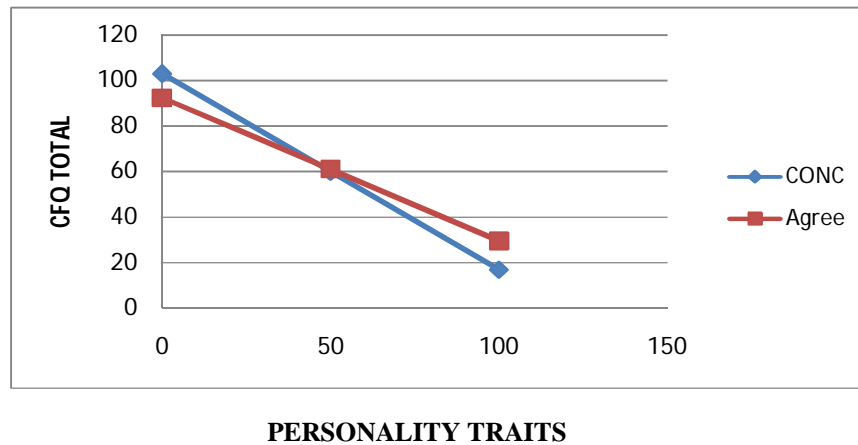
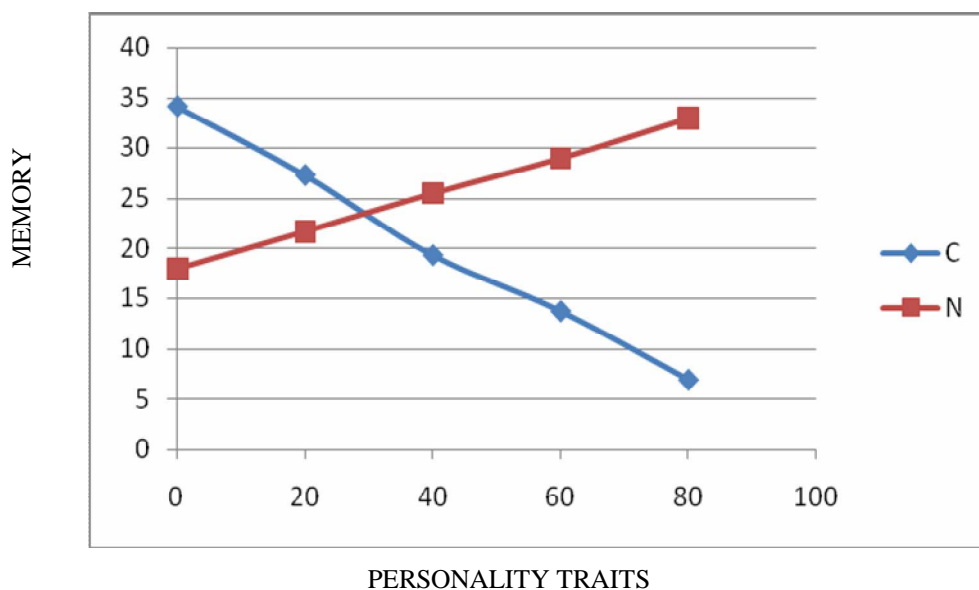


Figure 1 is the graphical representation for linear regression between cognitive failures, conscientiousness and agreeableness. The graph shows that with increase in conscientiousness and agreeableness there is decrease in cognitive failures.

Figure 2. Graphical representation of linear regression for memory with conscientiousness and neuroticism.



The figure 2 is the graphical representation for linear regression for memory with conscientiousness and neuroticism. The graph exhibits that with increase in conscientiousness the memory (cognitive failures) decreases whereas; with increase in neuroticism there is increase in memory (cognitive failures).

Figure 3. Graphical representations for linear regression for distractibility with conscientiousness, agreeableness and neuroticism

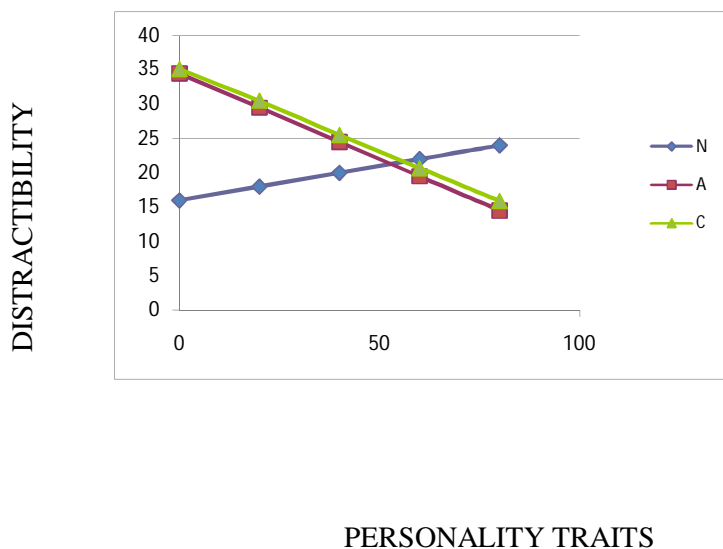
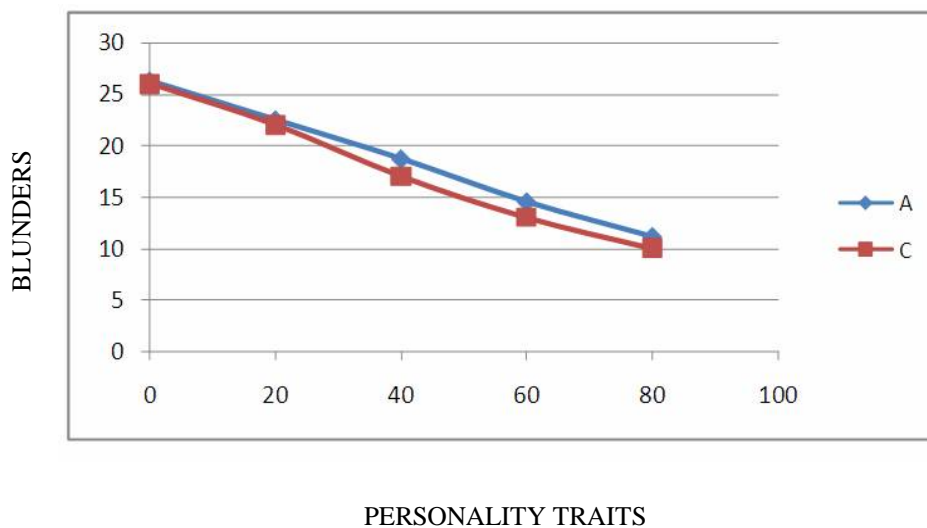


Figure 3 represents regression for distractibility with conscientiousness, agreeableness and neuroticism. The graphs exhibit that with increase in conscientiousness and agreeableness the distractibility decreases. While, with increase in neuroticism there is increase in distractibility.

Figure 4. Graphical representation of linear regression for blunders with agreeableness and conscientiousness.



The figure 4 is the graphical representation of linear regression for blunders with agreeableness and conscientiousness. The graph exhibits that with increase in agreeableness and conscientiousness there is decrease in blunders.

Figure 5. Graphical representation of linear regression for names and conscientiousness

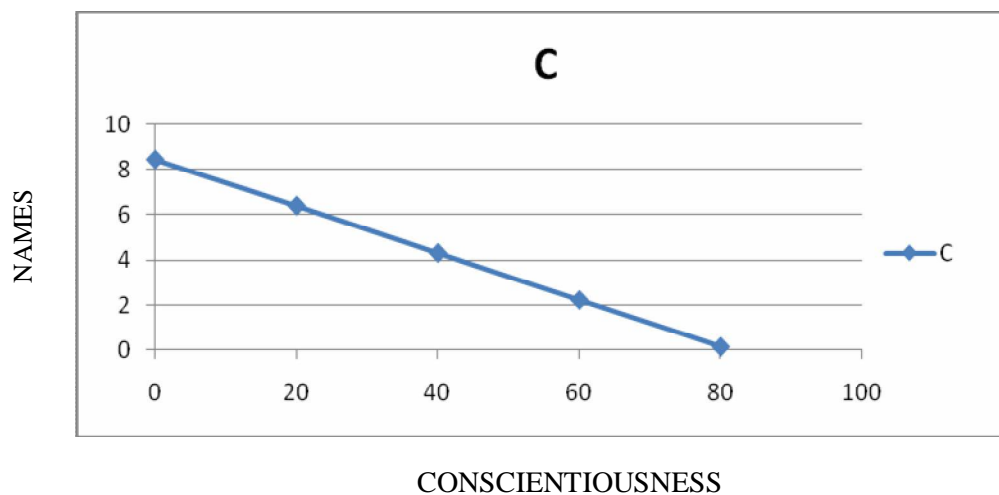
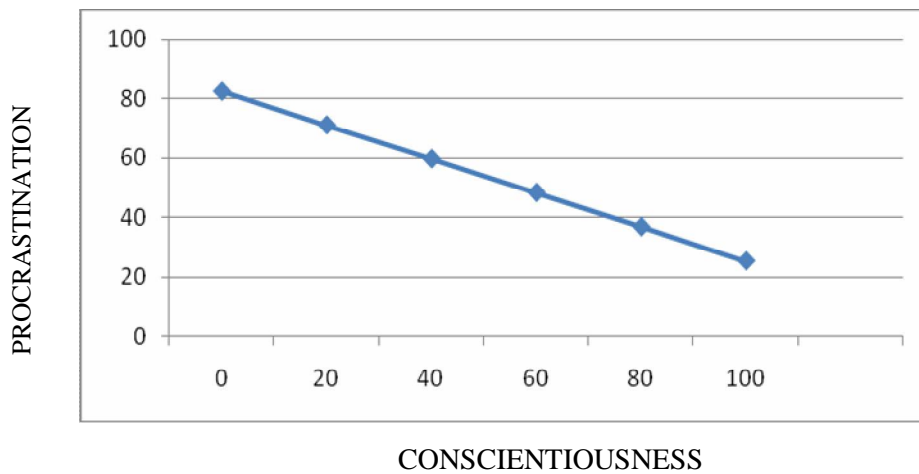


Figure 5 exhibits the graphical representation of linear regression of names with conscientiousness. It represents that with increase in conscientiousness there is decrease in names (cognitive failures).

Figure 6: Graphical representation of linear regression between procrastination and conscientiousness



The figure 3 is the graphical representation of procrastination and conscientiousness. The graph exhibits that with increase in conscientiousness the tendency of procrastinating behaviour decreases

Chapter 6

DISCUSSION

6.1 The effect of personality traits on procrastination.

The study exhibited that procrastinating behavior and conscientiousness were negatively correlated to each other. Therefore, hypothesis proposed in the present study is accepted; which states that low levels of conscientiousness leads to greater tendency in procrastinating behavior. The results can be supported by Johnson and Bloom (1995) reported that conscientiousness was negatively correlated to procrastination. Watson (2001) stated that procrastinating behavior had a strong correlation with lack of conscientiousness. Lay et al. (1998) explored the association between procrastinating behavior and conscientiousness in young children. The researchers found that cause of procrastination is lack of conscientiousness. The individuals that are highly conscientious are well organized, stable, focused and very hardworking. Therefore, such individuals do not exhibit procrastinating behavior or show very low procrastinating behavior. Morales et al. (2008) reported similar results as previous researchers people that exhibit high scores on procrastinating behavior are low on conscientious trait of personality. The possible reason for these results maybe because the individuals that show procrastinating behavior have very less self control and no or less discipline in their lives, so they score less on the conscientious trait of personality. Therefore, it is their non conscientiousness that acts as hurdle in their task completion or achieving their goals.

No significant correlation was reported for agreeableness, extraversion, neuroticism and openness to experience. Therefore, the hypotheses of the study are not accepted. Lai et al. (2015) reported that personality traits and procrastination were not related. They stated that relation between personality and procrastination is complicated than what past

theories and studies have reported. The personality is a multidimensional construct and is closely associated to personal, social and the cultural aspects.

Johnson and Bloom (1995) reported no significant correlation between procrastination, agreeableness, extraversion and openness to experience. The findings of the present work are consistent with their results. However Johnson and Bloom, did find a significant correlation between neuroticism and procrastination, unlike our results.

Watson (2001) stated that neuroticism is the most common predictor of procrastinating behaviour; especially self consciousness and depression is the two common facets of neuroticism that lead to increase in procrastination.

Varma (2017) reported in her study that neuroticism, extraversion, openness to experience and agreeableness and conscientiousness do not play a significant role in procrastinating behaviour.

The previously conducted researches by many scholars have claimed that neuroticism either as the predictor or major reason for the prevalent procrastination. On the other hand, it is observed that researchers that have been conducted in recent years have reported contradictory results; surprisingly with respect to neuroticism trait of personality. Some recent studies have exhibited that certain traits like neuroticism, extraversion, agreeableness and openness to experience either contribute less or do not contribute in procrastinating behaviour.

6.2 The effect of personality traits on cognitive failures.

The correlation and linear regression results showed negative and significant results between conscientiousness, CF Total and all four facets of cognitive failures. Therefore, the hypothesis 4 of the present study has been accepted; that is, low conscientiousness

causes increase in cognitive failures (memory, blunders, distracters and names). The results of the study are supported by Wallace et al. (2003), found that low conscientiousness causes increase in cognitive failures and cognitive failures play a crucial role in a person's safety behaviour. Cellar et al. (2001), reported a negative correlation between conscientiousness and workplace accidents. Barrick and Mount (2000) stated that conscientious individuals are well planned and organised. They are very careful while performing tasks and give great importance to the details. Therefore, people high on the conscientious levels are low on cognitive failures, accidents and violations of safety.

The correlation and the linear regression results between CF Total, agreeableness, distracters, blunders and shows a significant correlation. Lack or less on agreeable trait is taken as the major reason for errors and accidents in the occupational settings. Lack of agreeableness has been linked with behavioural problems in many professions; which includes not obeying the rules, bullying the colleagues, misbehaviour and misconducts. Therefore, the hypothesis has been confirmed that lack of agreeableness leads to increase in cognitive failures.

The results of the present work show that no significant correlation was observed between extraversion, openness to experience, CF Total and its four facets; memory, names, blunders and distracters. Therefore, the hypotheses proposed in the study is accepted i.e., extraversion and openness to experience have no relationship with cognitive failures and its facets. The results are supported by the study of Klockner and Hicks (2014) reported in their study that extraversion and openness to experience did not show any significant correlation with CFQ Total and its other four facets. People scoring high on this trait of personality are very open to new things, experiences, challenges and

tasks. They are open to experimentation and prefer new things instead of similarities in their lives. On the other hand some individuals that are high on this trait are extremely adventurous, challenging, open to risks, extremely spontaneous and full of curiosity. All these factors can lead to cognitive failures. However, if these factors like highly spontaneous and adventurous side of the trait is minimised in a person or is excluded, the trait can either lead to decrease in cognitive failures or no impact on the cognitive traits.

The results did not show any significant correlation between neuroticism and CF Total and its two facets; blunders, names. However, a significant correlation between neuroticism, memory and distracters was reported. Payne and Schnapp (2014) found in their study that negative affective experiences are significantly correlated with memory, CF Total, distractibility and blunders. However, their study did not show any significant correlation in names and neuroticism. Broadbent (1982) found that the predispositions in the failures of cognition leads to increase in small psychological symptoms which can be are very common when a person experiences stress. Broadbent also stated that there is an individual difference which causes the increased tendency of cognitive failures when experiencing stress.

Whereas, Jonsdottir (2007) reported that the stress perceived by a person is one part of the stress component, which includes a person's control over their perception in different aspects of their life. The highly affective and very accurate dimensions of stress lead to higher cognitive failures in daily life.

McVay (2009) reported that people who experience wandering of mind to a large extent which further causes increase in cognitive failures accompanied with mood swings or low mood. Kane (2007) observed in the research that the individuals who have greater

control capacity showed higher on cognitive failures in the environment full of distractibility. On the other hand, individuals with less control capacity had less cognitive failures. Mahoney et al. (1998) stated that there is a possibility that cognitive failure questionnaire proves out be more beneficial for the stress related aspects and less helpful in neurological basis.

6.3 Gender differences in personality traits

The t-test results exhibit that females are significantly higher on neuroticism than males. Therefore, the proposed hypothesis has been accepted. The result is supported by Goodwin and Gotlib (2004). They found the levels of neuroticism are higher in females and they experience depression more than males. The study also showed that neuroticism has a functional part in severe depression and gender differences. Costa et al. (2001) exhibits that females are higher on neuroticism and negative affects. The study stated that biological and social psychological reasons are the major underlying reasons for gender differences in traits of personality. Study by Bienvenu (2001) provided with evidence that boys and girls at the elementary school are treated little differently by their teachers. Boys are given more attention and expected to perform and score better than girls. Such an attitude can lead to the development and increased levels of neuroticism in females.

The present work shows that males and females did not differ on the extraversion trait. Therefore, the proposed hypothesis which states that males are more extraverts than females is not accepted. The result is supported by a study conducted by Arpaci et al. (2017) on the relation among individual differences in individualism- collectivism, extraversion and self presentation. It should be noted that with the evolution of time the

stereotypic thinking of people is also evolving. Now a day's men and women equally express themselves in all aspects of life. There are many factors that influence this trait of personality, for example, family background, co educational schooling, professions and social environment. In the present study, majority of the students belonged to an engineering institute with students from different regions of India. In recent times, boys and girls equally opt for different trades of engineering like civil, mechanical and electrical. Therefore, all these factors may have influences the results of the present study resulting into males and females equal on the extraversion trait.

Females reported significantly higher on conscientiousness. Hence, the proposed hypothesis is accepted. Feingold (1994) reported that females scored higher than males on the conscientiousness, agreeableness and neuroticism in six different countries where the research was carried. The conscientiousness is commonly characterised by goal orientation, stable and well organised. It is not surprising to find to females are higher on this trait as all these characters are commonly observed in females. Feingold stated that there are evolutionary, biological, social and psychosocial influences that lead to gender differences in personality traits.

The present study did not find any difference in males and females on the trait of agreeableness. Therefore, the hypothesis proposed that females are higher on this trait is rejected. Many previous studies state that either there is very less gender difference in this trait or females report slightly higher than males. The possible outcomes of the result could be due to the population on which the study was conducted. These days the thought process and thinking of people has changed in comparison to the older times. The factors like upbringing, education and intellectual levels may have led to such results.

The results reveal that males and females do not differ on the openness to experience trait of personality. So, the hypothesis is not accepted. Atta et al. (2013) reported that males and females were same on the openness to experience trait in their study. Costa et al. (2001) reported that females are higher on openness to feelings while males are higher on openness to experience, but overall there is no difference or less difference between males and females on the this trait of personality.

6.4 Gender differences in procrastination

The studies on gender differences in procrastination have reported mixed results. Yong (2010) reported that males are higher on procrastination than females. Sharma and Kaur (2011) reported that females tend to procrastinate more than males. Females tend to procrastinate more because they are afraid of failing. Ozer and Ferrari (2011) did not find any significant gender difference in procrastination.

In the present study, the t-test results proved that there is a gender difference in procrastination and males tend to procrastinate more than females. Therefore, the hypothesis proposed has been confirmed. Our results are supported by the study conducted by Balkis and Duru (2009) found that males are higher on procrastination. Steel (2007) reported that males tend to procrastinate more due to their low effortful controls. However, many studies report that cultural and social influences play an important role in procrastination (Ozer, 2009). Khan et al. (2014) reported in their work that males tend to be higher on procrastinating behaviour than females. They stated that level of motivation has a deep impact on the procrastinating behaviour. This behaviour of delaying the work is also affected by the problems related to emotions and behaviour.

6.5 Gender Differences in cognitive failures

The t-test results showed females were significantly higher on CF Total, blunders and distracters. While males scored higher on names and no significant gender difference was observed in memory. The hypothesis proposed that females are higher on cognitive failures, distractibility and blunders have been confirmed but not for memory. The hypothesis that males are higher on cognitive failures for names has been accepted.

Bridger et al. (2013) reported a significant gender difference in cognitive failures, in which females scored higher than males. Kanai et al. (2011) reported that distractibility is closely related to the structure and functioning of the parietal cortex. In both these studies females scored higher on distractibility than males. The study reported a positive correlation for the left parietal lobe of the brain and the density of gray matter.

Boomsma (1998) conducted a study to check the contribution and influence of genetics on the cognitive failures. The genetic analytical study was done on the Dutch adolescents' twins and their parents. He found that the contribution of heritability was about fifty percent. There was no relation between the scores of the cognitive failures, age and the level of education. It was reported in the research that females scored more in the cognitive failures than males.

Herlitz et al. (1997) reported gender differences in the episodic memory. Women performed better than males on the tasks associated with episodic memory. Females performed better than boys in tasks like word reorganization and their recalling. Both males and females performed on equal levels in semantic memory. The cognitive failures measures overall memory failures; episodic memory, semantic memory. The present study did not find differences in males and females on memory facet. There are various

factors that affect the functioning and failures of cognition and gender differences in them. These factors include genetics, hereditary factors, and the brain structure, lateralization of the brain.

6.6 Conclusion

The current study highlighted the effects of different traits of personality on procrastination and cognitive failures. The gender differences in personality traits, procrastinating behaviour and cognitive failures were also explored. The results exhibited that procrastinating behaviour was correlated to a single trait of personality, i.e. conscientiousness. The cognitive failures had a correlation with agreeableness and conscientiousness. Memory exhibited a correlation with conscientiousness and neuroticism. Distractibility was correlated to conscientiousness, agreeableness and neuroticism. Blunders exhibited a strong relationship with agreeableness and conscientiousness. Names correlated with a single trait of personality, i.e. conscientiousness. The t-test results show that there are gender differences in neuroticism, conscientiousness, CFQ Total, distractibility, blunders, names and procrastinating behaviour. The results exhibited that females are higher on neuroticism, conscientiousness, CFQ Total, distractibility, blunders. The males were higher on cognitive failures in names and procrastination.

6.7 Implications

A person's personality is the combination of different personality traits. There are certain traits that are predominant in a person while some of them are comparatively less expressed. These dominantly expressed and less dominantly expressed traits influence other aspects of life like, managing emotions, social life, communicative skills, stress

management, helping behaviour and many more. There are certain professions that are suitable for people with a particular personality. Therefore, studies on human personality and traits of personality can provide a better understanding of the human nature and behaviour. The current work was carried out to see the influence of different traits of personality over procrastination and cognitive failures. Certain types of personalities may tend to procrastinate more or less due to the major influence of different traits of personality. Similarly, cognitive failures can be experienced more in some people, depending on their personalities. The present work is a small effort to explore and throw light on these factors.

6.8 Limitations

The present study aimed to study the personality traits and their effect on procrastination and cognitive failures through self-reported measures. The study relied completely on the self-reported measures. In spite of the good reliability and validity of the questionnaires used, there is a high probability that participants might have felt lethargic while filling all three questionnaires together and thereby not attempting the questionnaires with full attention. The study only focused on the big five traits of personality and not the facets of each trait, which could have provided a deeper knowledge about the personality traits. The study did not include random sampling. The age range was kept into consideration while conducting the research. The sample size of the research was small. Many participants left the study in between, therefore affecting the sample size of the study. The CFQ measures the cognitive failures with respect to the last 6 months of time duration; although it was specified in the instructions to respond with respect to the past six months of experiences but there is a possibility that the participants neglected this aspect of the questionnaire.

6.9 Scope for Future Research

The future of the studies on personality traits, procrastination and cognitive failures lies beyond the self reporting measures. Majority of the studies on personality traits prefer self reporting measures but the future research can combine these measures with projective techniques and behavioural assessments. A better and deeper understanding will be provided with the addition of more variables such as age, professions, demographic and cultural factors. The laboratory tasks for measuring the cognitive failures will give a better understanding than the questionnaires. The facets of cognitive failure questionnaire; memory, blunders, distractibility and names can be understood better and precisely in the practical manner or laboratory task settings. Therefore, the future researches should consider these possible methods for the test administration. The future research should also research on the possible methods or ways of overcoming or reducing procrastination and cognitive failures in everyday life. The current study did not take an effective sample but the future researches can lay emphasis on this limitation of the present work.

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Appendix A: Consent Form

I am a PG Psychology student performing a research on Effect of Personality on Procrastination and Cognitive Failures. I hereby request you to kindly participate in this research. Your data will only be used for research purpose and will be kept strictly confidential.

NAME: _____ **DATE OF BIRTH:** _____

GENDER: **Male** **Female** **Other** **AGE:** _____ **C.G.P.A.** _____

CLASS: _____ **BRANCH:** _____

I _____ (Name) give my consent to use my survey data anonymously for the research project being undertaken at Thapar Institute Patiala.

SIGNATURE

Appendix B: NEO FFI- R

Instructions: The questionnaire contains 60 statements. Read all the statements carefully and tick the most appropriate option. Make sure you mark in the correct box. In the questionnaire SD = 1 (Strongly disagree) D = 2 (Disagree), N = 3 (Neutral), A = 4 (Agree) and SA = 5 (Strongly Agree)

S.No	Sentence	(SD)	(D)	(N)	(A)	(SA)
		1	2	3	4	5
1	I am not a worrier.					
2	I like to have a lot of people around me					
3	I don't like to waste my time daydreaming.					
4	I try to be courteous to everyone I meet					
5	I keep my belongings neat and clean.					
6	I often feel inferior to others.					
7	I laugh easily.					
8	Once I find the right way to do something, I stick to it.					
9	I often get into arguments with my family and co-workers.					
10	I'm pretty good about pacing myself so as to get things done on time.					

11	When I'm under a great deal of stress, sometimes I feel like I'm going to pieces.					
12	I don't consider myself especially "light-hearted."					
13	I am intrigued by the patterns I find in art and nature.					
14	Some people think I'm selfish and egotistical.					
15	I am not a very methodical person					
16	I rarely feel lonely or blue.					
17	I really enjoy talking to people.					
18	I believe letting students hear controversial speakers can only confuse and mislead them.					
19	I would rather cooperate with others than compete with them.					
20	I try to perform all the tasks assigned to me conscientiously.					
21	I often feel tense and jittery					
22	I like to be where the action is.					
23	Poetry has little or no effect on me.					
24	I tend to be cynical and skeptical of others' intentions.					

25	I have a clear set of goals and work toward them in an orderly fashion					
26	Sometimes I feel completely worthless.					
27	I usually prefer to do things alone.					
28	I often try new and foreign foods					
29	I believe that most people will take advantage of you if you let them.					
30	I waste a lot of time before settling down to work.					
31	I rarely feel fearful or anxious.					
32	I often feel as if I'm bursting with energy.					
33	I seldom notice the mood or feeling that different environments produce					
34	Most people I know like me.					
35	I work hard to accomplish my goals.					
36	I often get angry at the way people treat me.					
37	I am a cheerful, high-spirited person.					

38	I believe we should look to our religious authorities for decisions on moral issues.					
39	Some people think of me as cold and calculating.					
40	When I make a commitment, I can always be counted on to follow through.					
41	Too often, when things go wrong, I get discouraged and feel like giving up.					
42	I am not a cheerful optimist					
43	Sometimes when I am reading poetry or looking at a work of art, I feel a chill or wave of excitement.					
44	I'm hard-headed and tough-minded in my attitudes.					
45	Sometimes I'm not as dependable or reliable as I should be.					
46	I am seldom sad or depressed.					
47	My life is fast-paced.					
48	I have little interest in speculating on the nature of the universe or the human condition.					
49	I generally try to be thoughtful and considerate.					

50	I am a productive person who always gets the job done.					
51	I often feel helpless and want someone else to solve my problems.					
52	I am a very active person.					
53	I have a lot of intellectual curiosity.					
54	If I don't like people, I let them know it.					
55	I never seem to be able to get organized.					
56	At times I have been so ashamed I just wanted to hide.					
57	I would rather go my own way than be a leader of others.					
58	I often enjoy playing with theories or abstract ideas.					
59	If necessary, I am willing to manipulate people to get what I want.					
60	I strive for excellence in everything I do.					

Appendix C: General Procrastination Scale

Instructions: The following general procrastination scale has 20 statements. Please read all the questions carefully and select the most appropriate option. In the options 1 = extremely uncharacteristic (EU), 2 = moderately uncharacteristic (MU), 3 = neutral (N), 4 = moderately characteristic (4) and 5 = extremely characteristic (EC).

S.No	Sentence	EU	MU	N	MC	EC
		1	2	3	4	5
1	I often find myself performing tasks that I had intended to do days before.					
2	I do not assignments until just before they are to be handed in.					
3	When I am finished with a library book, I return it right away regardless of the date it is due.					
4	When it is time to get up in the morning, I most often get right out of the bed.					
5	A letter may sit for days after I write it before mailing it.					
6	I generally return phone calls promptly.					

7	Even with jobs that require little else except sitting down and doing them, I find they seldom get done for days.					
8	I usually make decisions as soon as possible.					
9	I generally delay before starting on work I have to do.					
10	I usually have to rush to complete a task on time					
11	When preparing to go out, I am seldom caught having to do something at the last minute.					
12	In preparing for some deadline, I often waste time by doing other things.					
13	I prefer to leave early for an appointment.					
14	I usually start an assignment shortly after it is assigned.					
15	I often have a task finished sooner than necessary.					
16	I always seem to end up shopping for birthday or Christmas gifts at the last minute.					

17	I usually buy even an essential item at the last minute.					
18	I usually accomplish all the things I plan to do in a day.					
19	I am continually saying do it tomorrow.					
20	I usually take care of all the tasks I have to do before I settle down and relax for the evening.					

Appendix D: Cognitive Failure Questionnaire

Instructions: The following questionnaire is about the cognitive failures. It contains 25 statements. Please read the statements carefully and answer with respect to the incidents that occurred in last six months. Please tick the appropriate option. The options include: Never = 1, Very Rarely = 2, Occasionally = 3, Often = 4 and Very Often = 5

S.No	Sentence	1	2	3	4	5
1	Do you read something and find you haven't been thinking about it and must read it again?					
2	Do you find you forget why you went from one part of the house to the other?					
3	Do you fail to notice signposts on the road?					
4	Do you find you confuse right and left when giving directions?					
5	Do you bump into people?					
6	Do you find you forget whether you've turned off a light or a fire or locked the door?					
7	Do you fail to listen to people's names when you are meeting them?					

8	Do you say something and realize afterwards that it might be taken as insulting?					
9	Do you fail to hear people speaking to you when you are doing something else?					
10	Do you lose your temper and regret it?					
11	Do you leave important letters unanswered for days?					
12	Do you find you forget which way to turn on a road you know well but rarely use?					
13	Do you fail to see what you want in a supermarket (although it's there)?					
14	Do you find yourself suddenly wondering whether you've used a word correctly?					
15	Do you have trouble making up your mind?					
16	Do you find you forget appointments?					
17	Do you forget where you put something like a newspaper or a book?					

18	Do you find you accidentally throw away the thing you want and keep what you meant to throw away -- as in the example of throwing away the matchbox and putting the used match in your pocket?					
19	Do you daydream when you ought to be listening to something?					
20	Do you find you forget people's names?					
21	Do you start doing one thing at home and get distracted into doing something else (unintentionally)?					
22	Do you find you can't quite remember something although it's "on the tip of your tongue"?					
23	Do you find you forget what you came to the shops to buy?					
24	Do you drop things?					
25	Do you find you can't think of anything to say?					

