THE RELATIONSHIP BETWEEN FEAR OF FAILURE, CREATIVE PROCESS ENGAGEMENT, AND SELF-RATED CREATIVITY AMONG MALAYSIAN UNDERGRADUATES

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The Relationship between Fear of Failure, Creative Process Engagement, and Self-Rated Creativity among Malaysian Undergraduates

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This research project is submitted in partial fulfilment of the requirements for the Bachelor of Social Science (Hons) Psychology, Faculty of Arts and Social Science, Universiti Tunku Abdul Rahman. Submitted on April 2020.

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Approval Form

This research paper attached here, entitled “The Relationship between Fear of Failure, Creative Process Engagement, and Self-Rated Creativity among Malaysian Undergraduates” prepared and submitted by “JASON LIM TAU YI, TAN WEI SEN, and NICHOLAS TSAI CHIN YAO” in partial fulfilment of the requirements for the Bachelor of Social Science (Hons) Psychology is hereby accepted.

_____ Date: _____

Supervisor

Dr. Tan Chee Seng

Abstract

This study was designed to study the relationship between fear of failure, creative process engagement, and self-rated creativity among Malaysian undergraduates. A quantitative cross-sectional correlational research design was employed. Participants were recruited using paper and pencil surveys through convenience sampling and snowball sampling. 414 Malaysian undergraduates within the age 18 to 29 were involved. The instruments Performance Failure Appraisal Inventory Short-Form (PFAI-SF), Creative Process Engagement Scale (CPES) and Self-rated Creativity Scale (SRCS) were used. Moreover, the Revised Cheek and Buss Shyness Scale (RCBS) and New General Self-Efficacy (NGSE) were also adopted for control variables of shyness and self-efficacy respectively in this study. Through correlational and mediational analysis, with shyness and self-efficacy being controlled, there was no significant relationship found between fear of failure and creative process engagement or self-rated creativity. Creative process engagement was also unable to mediate the relationship between fear of failure and self-rated creativity. However, creative process engagement was shown to be positively associated with self-rated creativity. Moreover, exploratory analysis was conducted and it was found that when fear of failure is being controlled, shyness is able to predict self-rated creativity but self-efficacy or creative process engagement also mediates the effect. Nonetheless, the present study has shed light for future studies as the exploratory analysis results have provided directions for future researchers to take into consideration.

Keywords: Fear of failure; Creative process engagement; Self-rated creativity; Shyness, Self-efficacy; Undergraduates; Malaysia

Declaration

We hereby declare that the report entitled "The Relationship between Fear of Failure, Creative Process Engagement and Self-Rated Creativity among Malaysian Undergraduates" submitted is written by us and is our own effort and no part has been plagiarized without citations.

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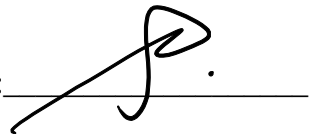
Signed : 

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Table of Contents

List of Tables

List of Figures

Chapter I

Introduction

Background of Study

Creativity is defined as the creation of unique and valuable ideas or products, and it is sometimes being referred to as innovation. Creativity is as the creation of new ideas, while innovation is the introduction and implementation of new ideas (Binnewies, Ohly, & Sonnentag, 2007). Since there are several different definitions of creativity, it is difficult to define creativity correctly. Creativity can be defined as "the ability to make new things exist". It can be thought of as the way to identify problems, use guesswork, develop hypotheses, exchange ideas with others, and contradict common expectations (Ekmekci & Tekin, 2011).

Creativity was known to bring benefits to our daily life. Conner, DeYoung, and Silvia (2018) proposed that having creative activities on a daily basis will result in increased well-being. Hence, the researchers conducted a diary study among 658 young adults for 13 days and found that people felt more excited and thrived in the next few days when they were more imaginative during the previous day. This finding has provided support on emphasising the importance of everyday imagination as a means to promote positive psychological functioning. In short, creative people tend to be happier and are more satisfied with their life.

Contemporary studies on creativity worked on the testing and measurements for domains of creativity, while investigating the question of 'what affects creativity' and 'what are the barriers to creativity' (Craft, 2001). These studies of creativity focused on various unique predictors. For instance, a study by Tan, Lau, and Lee (2017) tested the correlation between shyness and self-perceived creativity. Outcomes of the study displayed that shyness is associated with creativity via engagement in the creative process. The authors explained that as shy people are less engaged in the creativity-related process (which include information gathering and idea conception), their low levels of engagement in the creative

process will hinder their creativity as a result. On the other hand, the affiliation between motivation and creativity was stated in Amabile's (1985) study. Results have shown that poems created under an extrinsic motivation orientation were less creative than those created under intrinsic motivation orientation.

Sagar, Lavallee, and Spray (2009) mentioned that fear is a factor that triggers physiological changes, such as rapid heartbeat and muscle tension. It also has a causal behaviour in the environment, leading to individual behavioural causal relationships. When people try to escape or avoid threats, fear is their emotional reaction. Sagar et al. (2009) added that evasive behaviour is usually generated when the association between specific stimuli and threats triggers a fear response. They can cause severe distress and discomfort for children and adolescents if fear becomes excessive, nervous and continuous, and it can be an obstacle to academic and social development. If a person is biased against an action, then failure is a part of the expected outcome. Failure also seems to bring great opportunity, such as driving the creative project forward (von Thienen, Clancey, Corazza, & Meinel, 2017).

It is common that a person will perceive fear negatively following consecutive failures, leading to the fear of failure. In a design thinking process, failures have the power to drive and cause dismay in someone, which may lead to a lowering of ambitions or even lead to the abandonment of a project; in that case, the fear of failing summons creativity blocks in the process (von Thienen, Meinel, & Corazza, 2018). Thus, it can be said that higher fear of failure will inhibit creativity. Alternatively, a person can use the failures as drivers to make progress. When individuals embrace the possibility of failure to understand reasons and improve their domains, they presumably display favourable ways of failure-handling with a lower fear of failing; in that case, failures are used as a resource in the process to produce novel ideas, which allows them to achieve greater creative success (von Thienen et al., 2018). Thus, this indicates that lower fear of failure will promote creativity instead.

The creative process is a sequence of thoughts and actions that bring to novel and adaptive production (Binnewies et al., 2007). According to Binnewies et al. (2007), the starting point for each creative act is the emergence of a task or problem, which opens up the possibility of finding creative solutions. Engagement in the creative process can be conceptualised as a prerequisite for creating creative results. As mentioned by Binnewies et al. (2007), creativity is formed and improved in the creative process. One assumption is that more engagement in the sub-process will generate more ideas; alternatively, the order in which different sub-processes are involved may be critical to more or less creativity being produced (Binnewies et al., 2007). In short, it should be noted that the role of creative process engagement is crucial while studying creativity.

Malaysian universities are performing well, and their status has been internationally renowned throughout the years, but none of them is ranked in the world's top 100 rankings (Galimberti, 2019). Galimberti (2019) noted that engaging and promoting student's participation and engagement in creative problem solving could cultivate the student's social innovation. Individuality, imagination, critical thinking, originality, innovation, and problem-solving are just a few of the attributes that creativity can help to develop, but rather than cultivating it, the national curriculum appears to stifle creativity (Ilisha, 2019). Therefore, through studies on creativity, the awareness of creativity will be promoted. The younger generation's innovative spirit will be further enhanced, allowing the production of diversified ideas, as innovative thinking is a valuable asset throughout the world in today's age.

Therefore, the present study aims to examine the relationship between fear of failure, creative process engagement and self-rated creativity among Malaysian undergraduate students. Moreover, creative process engagement's role as a mediator will be taken into consideration in order to determine whether it mediates the association between fear of failure and self-rated creativity.

Problem Statement

People are terrified by failure, which in turn leads to their creativity being languished. Cole (2014) mentioned that fear of failure could inhibit the creativity of students to professionals in various situations. For instance, those who have a lower fear of failure are not afraid to get their tasks completed in a new way, while those who have a higher fear of failure will feel afraid and prefer a more conventional way in completing their tasks (Farashah, 2015; Ostapenko, 2015). According to von Thienen et al., (2018), fear of failure is the single greatest challenge to creative success. Although the relationship between fear of failure and creativity has been shown in past studies, it still remains unclear on how is an individual's creativity level is being affected by the fear of failure.

The scholars only emphasized the creative outcomes of individuals, but not their engagement in the creative process. Binnewies et al. (2007) noted that engagement in the creative process is necessary for producing creative outcomes, while Gilson and Shalley (2004) added that studying creativity as the outcome did not wholly explain the process which contributes to creative outcomes. Creative process engagement is the involvement in creativity-relevant cognitive processes (Zhang & Bartol, 2010). It is comprised of (1) identification of problems, (2) encoding and searching of information, and (3) generation of alternative ideas (Reiter-Palmon & Illies, 2004). Creative process engagement is distinct from conventional problem solving and rational decision making, and this involves paying careful attention to problems and formulating new solutions critically (Tan et al., 2017).

In other words, creative process engagement is able to mediate the relationship between fear of failure and creativity. Through understanding a person's creative process engagement, the indirect relationship between fear of failure and creativity will be shown in a more explicit manner. Moreover, the relationship can also be justified with more supports, as creativity is known to be the result of creative process engagement. Therefore, a person who

is engaged in the creative process (eg., participation in creative-related activities) will display a higher level of creativity. Thus, we further propose creative process engagement as a mediator in the present study to help explain the relationship between fear of failure and creativity.

However, there are no studies that show the association between fear of failure and creativity in the Malaysian context. In order to achieve Malaysia's Vision 2020 challenge on establishing a scientific and progressive society (Islam, 2001) , it would be essential to understand the effects of fear of failure in producing creative individuals. Hence, the lack of studies on fear of failure and creativity in Malaysia has prompted the present study to be conducted among Malaysian undergraduates, as the undergraduate students are the ones who will be shaping Malaysia's future. Their creative problem-solving skill is the key to bring Malaysia into the international level to compete with foreign countries.

Research Objectives

With support from the problem statement stated above. The present study proposed the following research objectives:

1. To examine the correlation between fear of failure and creative process engagement.
2. To determine whether creative process engagement is associated with self-rated creativity.
3. To determine the effect of fear of failure on self-rated creativity.
4. To determine the role of creative process engagement as a mediator between fear of failure and self-rated creativity.

Research Questions

The following research questions was aimed to be answered by the present study:

1. Is there a negative correlation between fear of failure and creative process engagement?
2. Is creative process engagement positively associated with self-rated creativity?
3. Is there a negative effect of fear of failure on self-rated creativity?
4. Can creative process engagement mediate between fear of failure and self-rated creativity?

Research Hypothesis

The research hypotheses of the present study were as follow:

H_1: There is a negative correlation between fear of failure and creative process engagement.

H_2: Creative process engagement is positively associated with self-rated creativity.

H_3: There is a negative effect of fear of failure on self-rated creativity.

H_4: Creative process engagement can mediate between fear of failure and self-rated creativity.

Significance of the Study

Understanding creativity is a need for us to progress innovatively in the Conceptual Age. Malaysia is on track to transform its industrial-based society into a knowledge-based one. Hence, the Malaysian Ministry of Higher Education launched a new education blueprint based on the National Transformation Plan (TN50) at the end of the year 2012 (Hashim, Aziz & Ahmad, 2017). Grapragasem, Krishnan and Mansor (2014) mentioned that creativity, leadership, innovation and entrepreneurship are the qualities of a well-designed higher education syllabus. Hence, through understanding what impacts creativity, supplementary

creative education curriculums may be produced to cultivate future younger generations in the process of shaping an innovative society.

Individuals who experience fear of failure are unsure if they will succeed and do not believe in their ability in avoiding failure. Besides, those who are afraid of failure often have negative and painful consequences for failed behaviour or experience (Krista, Danielle, Janelle & Walter, 2013). In the process of innovation, the experience of failure is essential, and this process should be accepted and studied to find clues about how to proceed in the innovation process (Cole, 2014). Thus, by understanding how creative process engagement plays a role as a mediator in the relationship between fear of failure and creativity, university students, educators, and working adults can identify and understand the relationship between fear of failure, creative process engagement and creativity to provide information to influence their creativity in achievement performance.

Also, we can fill the knowledge gap in our society about the fear of failure and self-rated creativity through this study. There was a lack of research that examines the effect of fear of failure on self-rated creativity among undergraduates in Malaysia. Hence, this study may provide information and results for future studies with the data collected among Malaysian undergraduates.

Conceptual Definition

Fear of failure. Fear of failure or atychiphobia (in Greek, *Athyches* means unfortunate; *Phobos* means fear) is defined as an illogical and continuous fear of failing experienced by someone (Rowa, 2015). Fear of failure does not categorise as a phobia directly. However, the fear of failure may inhibit certain people from progressing in particular tasks. For instance, they may vacate from trying out a new or challenging task as they fear that they will not be able to prevail or excel at it. According to Rowa (2015), when

the fear of failure is mild, individuals can regularly safeguard themselves and progress based on the direction of their objectives or goals. Rowa (2015) also noted that for specific individuals, the fear of failure could be affecting their attentiveness towards reality. As an example, an individual might be afraid of failing a test, although they have been well-prepared for it and have passed similar tests earlier. Hence, the person will perform poorly on the test due to the fear of failure. Consequently, the outcome of poor performance on the exam will strengthen the initial fear of failure, thus setting-up an endless loop.

Creative process engagement. Creative process engagement can be described as an individual's participation in creativity-related processes or activities, which included the (1) identification of problems, (2) encoding and searching of information, and (3) generation of alternative ideas (Reiter-Palmon & Illies, 2004). “Creativity” can be used to describe either a process or an outcome (Shalley & Zhou, 2008). In this study, self-rated creativity is our outcome variable. Hence, creative process engagement will be used to determine the extent of people participating in creativity behaviour (Zhang & Bartol, 2010). Studies about creativity should be to focusing on understanding the creative process, as the process will be leading to creative outcomes. For instance, when a leader puts the effort in identifying a problem to obtain as much info as possible, he or she generates various ideas and possibilities. Hence, more creative solutions likely to be produced (Zhao & Gao, 2014).

Self-rated creativity. Kaufman, Plucker, and Russell (2012) stated that self-rated creativity or self-perceived creativity was known to be one of the convenient methods to assess creativity. One way to assess self-rated creativity is by requesting individuals to score their creative achievements or capabilities (Beghetto, Kaufman, & Baxter, 2011). Creativity is usually defined as the talent of generating original ideas, thoughts, concepts, or work that fits inside a predetermined setting and reacts to task requirements (Sternberg & Lubart, 1995). Inventive capacity is best showed in extraordinary achievements that are perceived as

significant**.** A study by Adobe (2012) emphasised that creativity is a highly-valued skill in the workplace and education for the 21st century. Therefore, students are suggested to assess their creativity and its development through self-assessment (Chamberlin & Moon, 2005). In the following chapters of this study, the term "creativity" and "self-rated creativity" will be used interchangeably.

Operational Definition

Fear of failure. In this study, fear of failure is indicated by the total score for Tan et al.'s (in press) 4-item Performance Failure Appraisal Inventory Short-Form (PFAI-SF). It was adapted from Conroy, Willow, and Metzler's (2002) 5-item PFAI-SF which measures general fear of failure. The score of the scale ranges from 4 to 20, whereby an individual who scored higher values is interpreted as having a higher fear of failure.

Creative process engagement. Creative process engagement in the current study is represented by the scores on the Creative Process Engagement Scale (CPES) by Zhang and Bartol (2010). The score of the 11-item scale ranges from 11 to 55, whereby an individual who scored higher values is deduced as having a higher frequency of engaging in creative processes or higher participation in creative activities.

Self-rated creativity. In the present study, creativity is measured with a self-report assessment by Tan and Ong (2017). The 12-item Self-rated Creativity Scale (SRCS) is used to measure self-rated creativity. The 12-item SRCS by Tan and Ong (2017) is obtained from Zhou and George's (2001) 13-item SRCS which was used to access employees' creativity. The score of the scale ranges from 12 to 60, whereby higher scores indicate higher creativity.

Chapter Summary

In short, some past literatures supported the relationship between fear of failure and creativity. However, it remains unclear, and we do not know how exactly fear of failure contributes to creativity, as the past publications did not indicate in what ways the fear of failure is able to reduce creativity. Moreover, studies that investigate the association between fear of failure and creativity among university students are rather scarce in the context of Malaysia. These situations stated above have brought a great concern to us. Hence, the present study is aimed to study the mediating effect of creative process engagement between fear of failure and creativity among Malaysian undergraduates.

Chapter II

Literature Review

Fear of failure

Sagar and Jowett (2010) mentioned both genders showed that levels of actual and perceived ability are prominent in fear of failure. In evaluative achievement, fear of failure includes cognitive, emotional and behavioural perspectives linked to failure. Fear of failure was conceived as a reason for preventing failure in the form of evaluative achievement associated with anticipatory shame (Sagar & Jowett, 2010).

There was an intense fear of failure associated with the prevalence of adverse physical and psychological consequences such as depression, anxiety, eating disorders and drug abuse in the context of education and sport, where assessment is an essential part of these contexts (Sagar & Jowett, 2010). Sagar, Lavallee, and Spray (2009) stated that fear of failure consolidates the adoption of performance-avoidance goals that may cause anxiety, resulting in weakening performance, and cause individuals to lose interest in the event and probably drop out. Fears of failure and rejections have been reported as the most common sources of worry and ill-adaptive stress among athletes in sport-related research. Although the fear of failure does not have any direct effect on sports performance, it mainly influences cognitive performance indirectly (Sagar et al., 2009).

In academic settings, Nsiah (2017) stated that the impact of fear of failure towards student involves higher anxiety, poor self-esteem, low control perception, pessimism and self-handicapping and increased academic task cheating. Students with fear of failure will adopt goals of avoidance attainment, poorer grades, reduced subjective well-being, lowered intrinsic motivation and decreased quality of engagement in situations of achievement. Sagar and Jowett (2010) claimed that fear of failure leads to distress that could create a barrier to

future involvement. Hence, it can have detrimental effects on individuals if we ignore the fear of failure and the problems associated with it.

Creative Process Engagement

Creative process engagement (CPE) refers to a person's participation in creativity-related acts. CPE is comprised of (1) identification of problems, (2) encoding and searching of information, and (3) generation of alternative ideas (Reiter-Palmon & Illies, 2004). Most of the creativity studies emphasised on creativity as the outcome (George & Zhou, 2007; Amabile, Barsade & Mueller, 2005). Gilson and Shalley (2004) mentioned that studying creativity as the outcome did not wholly explain the process which contributes to creative outcomes. Engagement in the creative process is necessary for producing creative outcomes (Binnewies et al., 2007). However, researchers tend to put less importance on engagement in the creative process (eg., participation in creative-related activities). Instead, they focused on direct effects on creative outcomes while trying to explain creativity.

Creativity is known to be the result of creative process engagement. The creative process engagement signifies an essential early-stage towards creativity. CPE is distinct from typical problem resolving and choice constructing (Tan, Lau, Kung & Kailsan, 2019). This is because (1) creative process is more attentive to critically-defined problems rather than the average type of problems, (2) creative process is the generation of innovative and original solutions, and (3) the obtained info is explored, encoded, joined, or reorganized during creative process (Lubart, 2001).

Self-Rated Creativity

Creativity is closely related to divergent thinking (Runco, 2009). An explanation of creativity by Shapiro (1970) states that creativity is a reorganisation of thoughts to create something new. Moreover, a creative person might be able to perform outside their scope of profession as they may possess knowledge of various domains (Rogers, 1954). Thus, different domains are used while examining creativity (Sternberg & Lubart, 1999). For instance, designers may emphasise more on the artistic components of creativity, while physicists and business owners may focus more on problem-solving and entrepreneurial components of creativity.

The study of creativity originates far back in history. Craft (2001) stated that during the Roman Empire period, human beings were viewed as the source of artistic expression and inspiration, while uniqueness, insight, creative genius and subjectivity were highly valued during this era. In the 19th century, Francis Galton undertook the first methodical study of creativity, and his initial focus was ‘genius’ (Simonton, 2003). In the 1920s, psychologists started studying intelligence, but significant creativity studies in psychology only arose during the 1950s (Craft, 2001). Present-day creativity researches are interested in testing and measuring domains of creativity while investigating what affects creativity.

Self-rated creativity or self-perceived creativity is known to be one of the consistent and convenient methods to measure creativity, as stated by Kaufman, Plucker, and Russell (2012). This statement is also supported by Silvia, Wigert, Reiter-Palmon, and Kaufman (2012), as the scholars revealed that self-rated creativity is a reliable and valid method to measure creativity. Self-rated creativity can be assessed by requesting individuals to rate their perceptions of their creative accomplishments or abilities (Beghetto et al., 2011). In short, surveys of self-rated creativity may be distributed by researchers to participants if they are conducting creativity studies which require data of the participants' creativity levels.

Fear of failure and Creativity

Fear of failure was said to be correlated with creativity in past studies (Martins, Monsalve & Martinez, 2018; von Thienen et al., 2018). Martins et al.'s (2018) study showed that fear of failure is associated negatively with innovativeness. People who are less afraid of the probability to fail are more likely to try things differently, while those who are more afraid of the risk to fail are more prone to act conventionally (Farashah, 2015; Ostapenko, 2015). Landier (2005) also mentioned that fear of failure is not only related to innovativeness in the decision to start up a business but also in the selection of new projects and the decision to carry the projects (as cited in Martins et al., 2018). Hence, the statements above supported that the fear of failure has constituted as a factor which inhibits creative behaviours.

The relationship between fear of failure and creativity can also be displayed in terms of how a person's creativity will be inhibited after experiencing multiple failures. De Castella, Byrne, and Covington (2013) stated that there are two possible ways which a person would react to failures after facing them: one will utterly give up, while another would create ideas or develop new skills to overcome failure. The self-protectors who have a high fear of failure and low success orientation would give up to propose new thoughts on how to improve themselves after they have experienced failure. They would use self-defensive strategies such as self-handicapping to protect themselves (Martin & Marsh, 2003). Hence, it can be said that their creativity has been inhibited due to their high fear of failure.

On the other hand, some people's creativity will be improved instead, even after experiencing multiple failures. Optimists are the opposite of self-protectors who are low in fear of failure and have high success orientations (De Castella et al., 2013). Therefore, after experiencing failures, they would think of many ideas on how to excel in their life and to maintain their self-worth, which is valued highly by them. Hence, it can be said that their creativity has been facilitated due to their lower fear of failure.

Fear of failure and Creative Process Engagement

Fear of failure is most apparent at the evaluation stage of the creative process. As Csikszentmihalyi (1996) mentioned that, evaluation is probably the most emotionally trying part of the creative process when one feels most uncertain and insecure. Caraway, Tucker, Reinke and Hall (2003) conducted research as tested on a sample of 123 adolescents with age from 13 to 19 years, and using a 4-item General Fear of Failure Scale (GFFS) scale. The authors wrote that the students who are having a fear of failure are more likely to show less engagement in school-related tasks. Steel (2007) stated that people with the fear of failure would procrastinate, spend lesser time and effort in a task, and demonstrating a lack of engagement in a task.

Creative process engagement as the creative process occurs in the organisational context, enabling employees to engage in creativity-relevant methods or processes such as identifying problems, searching and encoding data, and generating ideas and solutions (Zhang & Bartol, 2010). Nikhil and Arthi (2018) found that when employees receive strong support from the organization, they enhance their cognitive and emotional evaluation of their work and organization. In a supportive environment, employees tend to be creative without having a fear of failure.

Creative Process Engagement and Creativity

Tan et al. (2017) mentioned that even though a wide-range of creativity researches has been conducted, creative performance instead of the creative process have been the emphasis for the majority of the studies. Shalley and Zhou (2008) stated that those studies have focused on outcomes of creativity, such as the generation of novel and subjective ideas or resolutions. Therefore, less emphasis has been made by researchers to study the effect of engagement in the creative process on creative outcomes.

However, Zhang and Bartol (2010) claimed that the role of the creative process is essential while examining creativity. The scholars created the Creative Process Engagement Scale to test employee's engagement in creative processes, which is essential in fostering creativity. According to the self-assessment and manager evaluations of 367 employees, the scholars conclude that employees who scored high in creative process engagement are bound to be more creative. Zhang and Bartol (2010) noted that the positive correlation of creative process engagement and creativity might be caused by individuals with high engagement in the creative process, as they are more attentive in identifying a problem, obtaining extra info, and idea production.

Researchers have also revealed that ideas produced at the preliminary stage are likely to be monotonous and less creative (Kaufmann & Vosburg, 2002; Tan & Qu, 2015). Therefore, Tan and Qu (2015) stated that individuals who devote more time in exploring alternative options tend to spawn creative ideas, as compared to others who have a solution instantaneously. Hence, it can be said that an individual's engagement in the creative process is able to predict his or her creativity.

This statement is also supported by findings from past studies (Henker, Sonnentag & Unger, 2015; Jiang & Yang, 2015). These studies have acknowledged the engagement of creative processes in promoting creativity. Henker et al.'s (2015) study signified the importance of the different stages in the creative process as foundations of increasing employee creativity. On the other hand, Jiang and Yang's (2015) study showed that through participation in the creative process engagement, employees would be enhanced to recognise problems from complicated situations, to collect relevant information and to create alternative solutions, which will contribute to higher creativity.

Theoretical Framework

Ajzen (1991) mentioned that the theory of planned behaviour was designed to describe and predict human behaviour. It is an extension of the theory of reasoned action, which is essential when dealing with the inability of people to control the willingness for the shortcomings of the original model. The core element in the theory of planned behaviour is the desire of the person to perform a particular behaviour similar to the original theory of reasoned action. The purpose of the hypothesis is to capture the motivational factors that affect actions. The motivational factors show how much effort people are willing to pay and how much effort they are planning to make to accomplish it. The stronger the general intention to conduct a particular behaviour, the more likely it will be acted. However, it should be clear that behavioural intentions can be detected in behaviours only if the behaviour is subject to voluntary control (Ajzen, 1991).

The theory of planned behaviour assumes three deliberate determinants that are conceptually distinct. The first is the attitude toward the behaviour, referring to the degree to which the conduct of an individual is viewed as being outstanding or weak. The second is a social factor called subjective norms. This applies to the perceived social obligation to act or not to behave. The third is the degree of perceived behavioural control, referring to the perceived ease or complexity of behavioural efficiency (Ajzen, 1991).

In general, the more desirable behavioural attitudes and subjective norms, and the greater the perceived behavioural control, the higher the intention of the person to conduct the behaviour. It is assumed that the relative importance of attitude, subjective norm and perceived regulation of actions in intentional predictions will differ by behaviour and circumstances (Ajzen, 1991). Therefore, it may be noticed that only attitudes have a significant impact on intentions in some applications, while the attitudes and perceived

behavioural control are adequate to explain intentions in other applications, and all three predictors may contribute independently (Ajzen, 1991).

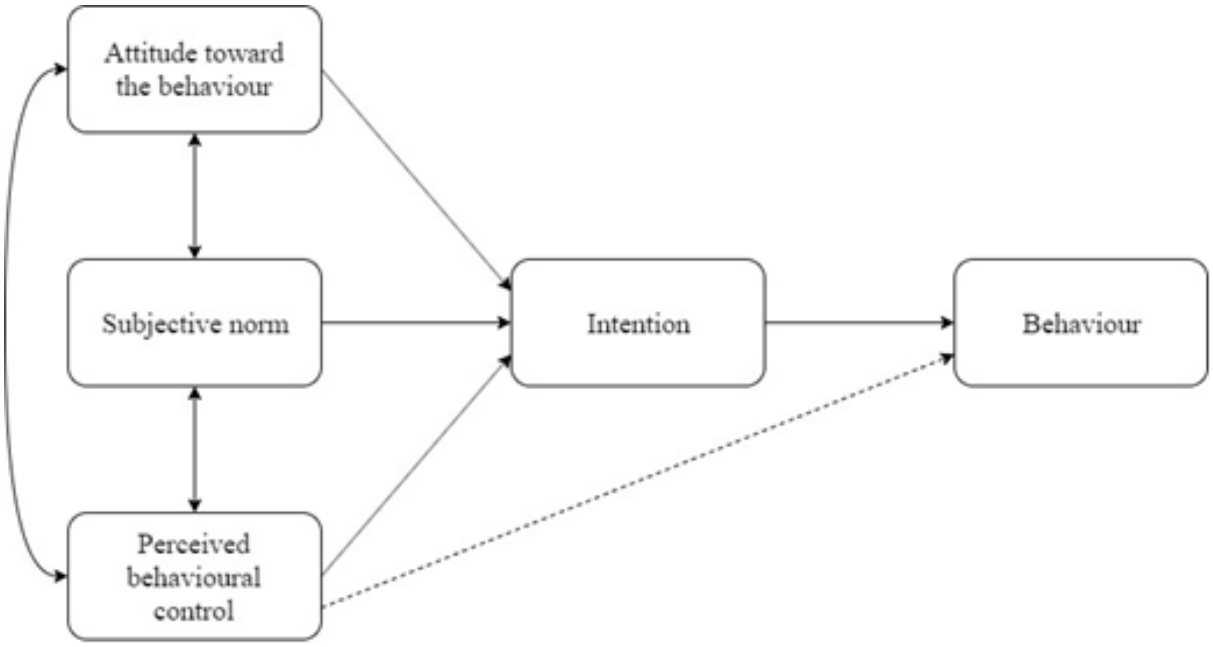

Figure 2.1. Theoretical Framework for Theory of Planned Behavior

Conceptual Framework

The proposed conceptual framework for the present study is guided by the Theory of Planned Behaviour (Figure 2.1). Through the theory's perspective, the current study attempts to examine the relationship between fear of failure, creative process engagement, and self-rated creativity. More specifically, fear of failure will be representing the attitude component; creative process engagement will be representing the intention component, while self-rated creativity will be representing the behaviour component of the Theory of Planned Behavior.

The model of the proposed conceptual framework (Figure 2.2) focuses on the indirect effect of fear of failure on self-rated creativity through an intermediary mediator variable, creative process engagement. In this study, the main variables involved are fear of failure, creative process engagement, and self-rated creativity. Fear of failure is the independent variable (predictor), self-rated creativity is the dependent variable (outcome), and creative

process engagement is the mediating variable (mediator). It is hypothesised that there is a negative effect of fear of failure on self-rated creativity. It is assumed that there is a negative correlation between fear of failure and creative process engagement, while creative process engagement is positively associated with self-rated creativity.

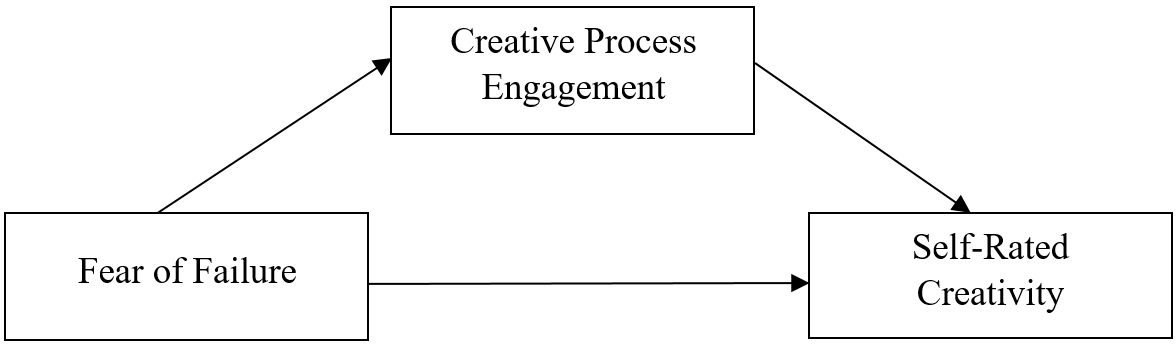

Figure 2.2. Conceptual Framework of the Relationship between Fear of Failure, Creative Process Engagement, and Self-Rated Creativity.

Chapter Summary

In this chapter, we have reviewed literature from past studies to support the relationship between fear of failure, creative process engagement, and self-rated creativity. Also, the Theory of Planned Behavior was used to explain the association between fear of failure, creative process engagement, and self-rated creativity. Lastly, the conceptual framework was shown in a figure to provide a better understanding of relationships among the variables used in the present study.

Chapter III

Methodology

Research Design

The present study employed a quantitative cross-sectional correlational research design. To include more respondents in this study, quantitative research was favored over qualitative research because it employed a multiple-choice survey and was able to gather a large amount of data needed. It was also more objective, scientific, fast and reliable.

The cross-sectional research design was adopted in this study because the data can be gathered from samples selected from the population simultaneously at one time, based on different age group or demographic status. Levin (2006) claimed that cross-sectional research was being performed to predict the prevalence of the interest results for a particular population or subgroups inside the population at a given time point. Cross-sectional research was also used when the study's purpose is descriptive, mostly in the survey form. It is fairly cheap and takes little time to conduct (Levin, 2006).

The present study was proposed to examine the relationship between fear of failure and creativity with creative process engagement acting as the mediator. To obtain the participants' information and data, a survey questionnaire with selected instruments was structured. The survey was distributed in the form of paper-and-pencil questionnaire in order to gather responses from potential participants.

Research Participants

The target population of the present study was undergraduate students from universities in Malaysia. Computation of needed sample size based on the proposed mediation model was done with the use of Monte Carlo Power Analysis for Indirect Effects

(Schoemann, Boulton & Short, 2017). The computed results showed that a sample of 272 research participants was needed for the target power of .95 (see Appendix N).

Nevertheless, by referring to the table constructed by Krejcie and Morgan (1970), the required sample size for this study was further determined. As reported by the Ministry of Higher Education Malaysia (2017), the population size of undergraduate students in public and private universities was 917,995 students, which indicated that the population of this study was near to 1,000,000 (one million) students. With reference to the table (Krejcie & Morgan, 1970), the ideal sample size for a population of 1,000,000 is 384 with a 95% confidence level and a 5% margin of error. Thus, the minimum required sample size needed for this study was set at 384.

Moreover, another additional participants were recruited due to expected outliers, missing data, or incomplete questionnaires. Therefore, a total of 414 Malaysian undergraduate students were recruited for the present study. However, 24 responses were omitted from data analysis, as they were found to be univariate outliers (see Appendix G). Therefore, after removing the outliers, 390 complete responses remained for data analysis.

Convenience sampling and snowball sampling were used in this study, to gather the samples who are easily accessible and to recruit more samples through the first wave of participants. Convenience sampling is a type of non-random sampling where samples from the target population are included for the study purposes through meeting specific practical criteria, such as geographic proximity, ease of access, availability at a particular time, or desire to engage (Etikan, Musa, & Alkassim, 2016). Convenience sampling is inexpensive, convenient, and easily accessible to the researcher. Spatially or administratively, the selected samples are usually located close to where the researchers conduct data collection (Etikan et al., 2016).

Snowball sampling is also a type of non-random sampling, starting with a simple selection of primary subjects. These initial subjects serve as "seeds" through wave 1, which the participants are recruited. Wave 1 participants eventually recruit wave 2 participants, while wave 2 participants recruit wave 3 participants; wave by wave, the sample increases in size like a snowball rolling down the hill (Heckathorn, 2011).

The reason for omitting random sampling method in the present study is due to the intense difficulty in obtaining the full students' list for undergraduates from various Malaysian universities. Moreover, if random sampling were used, it would be challenging for the researchers to approach each of the selected participants.

Research Location

Undergraduate students from both private universities and public universities in Malaysia were recruited. The research participants in the present study were mainly from universities in Perak (eg., UTAR Kampar), Penang (eg., Segi Penang), and Kuala Lumpur (eg., UTAR Sg Long).

Instrumentation

Performance Failure Appraisal Inventory Short-Form (PFAI-SF). In this study, Tan et al.'s (in press) 4-item PFAI-SF was used to measure fear of failure among university students. This version removed Item 2 from Conroy et al.'s (2002) theoretical 5-item PFAI-SF, because the 4-item model showed better fit results than the theoretical 5-item model. All items were rated on a Likert scale with 5-point, ranging from 1 (*do not believe at all*), 3 (*believe 50% of the time*), to 5 (*believe 100% of the time*). "When I am failing, I am afraid that I might not have enough talent" and "When I am failing, I worry about what others think about me" were the sample of items. The total average score ranges from 1 to 5, while a

person who scored higher values was indicated as having a higher fear of failure. The 4-item PFAI-SF was shown to have acceptable internal consistency with a Cronbach's alpha value of .78 in Tan et al.'s (in press) study. The Cronbach alpha for this study was .67.

Creative Process Engagement Scale (CPES). The CPES was developed by Zhang and Bartol (2010). It consists of 11 items and was used to measure creative process engagement among university students. All items were rated on a 5-point Likert scale ranging from 1 (*never*) to 5 (*very frequently*). Sample of the items were "I think about the problem from multiple perspectives" and "I enjoy finding solutions to complex problems". The total score ranges from 11 to 55, whereby a person who scored higher values was deduced as having a higher frequency of participating in creative processes or higher participation in creative activities. The CPES was shown to have high internal consistency in past studies. The Cronbach's alpha coefficient was .87 in the study by Tan et al. (2017). For the present study, the Cronbach alpha was .80.

Self-rated Creativity Scale (SRCS). The 12-item SRCS by Tan and Ong (2017) was used to measure creativity among university students. This version removed Item 9 from Zhou and George's (2001) original 13-item SRCS due to low factor loading. Samples of items were "I often have a fresh approach to problems" and "I am a good source of creative ideas". All items were rated on a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The total mean score ranges from 1 to 5, whereby a person who scored higher mean score was assumed to have more creativity. The original 13-item SRCS showed high internal consistency in Zhou and George's (2001) study (Cronbach $\alpha = .96$), while the 12-item SRCS was also found to have sound psychometric properties in Tan and Ong's (2017) study. In the present study, the Cronbach alpha was .85.

Other Variables

Tan et al.'s (2017) study showed that there is a relationship between shyness, creative process engagement, and self-rated creativity. In that study, creative process engagement was the mediator between the shyness (predictor) and self-rated creativity (outcome variable). Hence, it would be necessary to control shyness in the present study to find out the effect of fear of failure on creativity, as the predicted effect may be influenced by shyness. Cheek's (1983) **Revised Cheek and Buss Shyness Scale (RCBS)** with 13-items was adapted to collect the participants' shyness level. Participants will need to rate themselves on a 5-point Likert scale. Higher scores display a greater level of shyness. In the present study, the Cronbach alpha was .82.

Hsiao, Chang, Tu, and Chen's (2011) study also showed that self-efficacy is positively correlated with innovative behaviors, while Zhang et al.'s (2018) study indicated that there is a negative correlation between self-efficacy and fear of failure. Hence, self-efficacy should be controlled in the present study while examining the association between fear of failure and creativity. Chen, Gully and Eden's (2001) 8-item **New General Self-Efficacy (NGSE)** scale was adapted to collect the participants' level of self-efficacy. Participants will need to rate themselves on a 5-point Likert scale. Higher average scores display a greater level of self-efficacy. In the present study, the Cronbach alpha was .84.

Research Procedure

In the present study, undergraduates in Malaysian universities were recruited via convenience and snowball sampling to fill in the survey questionnaire distributed through paper-and-pencil survey method. Before the data collection process, approval and permission to involve human subjects were obtained from the Universiti Tunku Abdul Rahman's Scientific & Ethical Review Committee (Re: U/SERC/226/2019; see Appendix H).

Data collection period lasted from December 2019 to March 2020. During the data collection period, the paper-and-pencil surveys were printed out and distributed via convenience sampling. Potential research participants were recruited via distribution of survey questionnaires by the researchers. Recruitment of participants started in Universiti Tunku Abdul Rahman (Kampar campus). Snowball sampling method was also used in this study to reach more potential participants. For this sampling method, the first batch of survey respondents were the researchers' close friends who were also undergraduate students. Then, they will help to recruit more potential participants later on for the present study.

Before the respondents started to fill in the survey questionnaire, they were required to read the attached participant information sheet on the first page, which contains the purpose of the study and informed consent. After that, the respondents signed to ensure that they took part in this study voluntarily, and agree that the collected responses are for academic use only with their privacy being kept confidentially. Besides collecting responses for the variables in this study, the participants' demographic information (eg., age, gender, ethnicity, name of university, year of study) were also collected. The collected responses were then be processed and analyzed with IBM SPSS Statistics Version 25 for Windows.

Pilot Study

Thabane et al. (2010) mentioned that pilot study was used to evaluate the layout of the full-scale study, which can then be modified, as if anything is lacking in the pilot study, it can be extended to the full-scale study to increase the chances of a better result. A pilot study with 40 Malaysian undergraduate students was conducted. The online survey was created with Qualtrics and distributed online through social networking apps or websites. Data collection period was two weeks. The Cronbach's alpha values for PFAI-SF, CPES, SRCS,

RCBS, and NGSE were found to be .81, .89, 84, .85 and .88 respectively, which were considered high reliability (Hinton, Brownlow, McMurray, & Cozens, 2004).

Data Analysis Plan

IBM SPSS Statistics Version 25 for Windows was used to analyse the data collected in the present study. Descriptive statistics of categorical variables such as gender, ethnicity, name of university, and year of study, were measured in terms of frequency and percentage. While descriptive statistics of continuous variables such as age was measured in terms of frequency, percentage, mean, standard deviation, minimum, and maximum value.

The reliability of instruments used in this study was tested with Cronbach alpha. Preliminary analyses for normality assumption was displayed by the skewness and kurtosis values of fear of failure, creative process engagement, self-rated creativity, shyness, and self-efficacy..Pearson correlation analysis was used to test the association between fear of failure, creative process engagement and self-rated creativity with shyness and self-efficacy being controlled.

The proposed mediation model that displayed the relationship between fear of failure, creative process engagement, and self-efficacy was tested using Hayes PROCESS macro model 4 (Hayes, 2013) with shyness and self-efficacy being controlled. It is a modelling tool for path analysis which can estimate direct and indirect effects for a hypothesised mediation model.

Chapter Summary

In this study, quantitative method, cross-sectional design and correlational approach was adopted as the research design. Undergraduate students from Malaysian universities was recruited as participants through convenience sampling and snowball sampling in this study.

Performance Failure Appraisal Inventory Short-Form (PFAI-SF), Creative Process Engagement Scale (CPES), and Self-rated Creativity Scale (SRCS) was used to measure fear of failure, creative process engagement, and self-rated creativity respectively. Moreover, other variables of shyness and self-efficacy was controlled also in the present study. A pilot study was conducted to measure the instruments' reliability. The internal consistency for all the instruments ranged from acceptable to high in both pilot study and actual study. Lastly, Pearson correlation analysis and mediation analysis using Hayes' PROCESS macro model 4 was used for data analysis through IBM SPSS Statistics Version 25 for Windows.

Chapter IV

Results

Normality Assumptions

Normality assumptions were tested using boxplots, skewness and kurtosis values. Univariate outliers were found and identified from the boxplots through case numbers labelled with small circles respectively. In the present study, after three rounds of analysis, 24 univariate outliers were found and were removed (see Appendix I). George and Mallery (2010) mentioned that the acceptable range of the values of skewness and kurtosis were between -2 and 2, which suggested normal univariate distribution. In this study, normality assumptions for the variables were met as skewness and kurtosis values of all the variables were within the acceptable range (see Table 4.1).

Table 4.1
Normality for each variable (N=390)

	Skewness		Kurtosis	
	Statistic	*SE*	Statistic	*SE*
Fear of failure	-.10	.12	-.48	.25
Creative process engagement	-.23	.12	.07	.25
Self-rated creativity	-.11	.12	-.10	.25
Shyness	.05	.12	-.20	.25
Self-efficacy	-.13	.12	.33	.25

Note. SE = standard error.

Descriptive Statistics

Table 4.2 shows the descriptive statistics of the sample in this study. The sample consisted of 390 participants which ages ranged from 18 to 29 (M = 21.19, SD = 1.60). Males were slightly outnumbered by females in this study, as there were 187 male (47.9%) and 203 (52.1%) female participants. Besides, majority of them were Chinese (89.7%), followed by Indians (7.9%), Malays (1.0%), and other races (1.3%).

Most of the respondents were from Perak (48.2%), Penang (29.2%), and Kuala Lumpur (22.3%) universities. The respondents in this study were from a wide range of degree courses including business or finance (11.0%), accounting (9.0%), engineering (17.2%), advertising or journalism (13.1%), public relations or communication (7.2%), psychology or counselling (17.2%), science (8.5%), information technology (12.8%), language or education (1.3%), arts or design (1.5%), and management (1.3%). Most of the respondents were currently in their first (32.8%), second (36.7%), and third (25.1%) year of study.

Table 4.2
Descriptive statistics of the sample (N=390)

	n	*%*	*M*	*SD*	Min	Max
Age			21.19	1.60	18	29
18	10	2.6				
19	44	11.3				
20	95	24.4				
21	69	17.7				
22	98	25.1				
23	45	11.5				
24	22	5.6				
25	4	1.0				
26	2	0.5				
29	1	0.3				

Note. M = mean, *SD* = standard deviation, Min = minimum, Max = maximum.

Table 4.2 (cont.)
Descriptive statistics of the sample (N=390)

	n	%	*M*	*SD*	Min	Max
Gender						
Male	187	47.9				
Female	203	52.1				
Ethnicity						
Chinese	350	89.7				
Indian	31	7.9				
Malay	4	1.0				
Others	5	1.3				
Location of university						
Penang	114	29.2				
Perak	188	48.2				
Kuala Lumpur	87	22.3				
Perlis	1	0.3				
Course of study						
Business or Finance	43	11.0				
Accounting	35	9.0				
Engineering	67	17.2				
Advertising or Journalism	51	13.1				
Public relations or Communication	28	7.2				
Psychology or Counselling	67	17.2				
Science	33	8.5				
Information technology	50	12.8				
Language or Education	5	1.3				
Arts or Design	6	1.5				
Management (Hotel, event, tourist)	5	1.3				
Year of study						
1st year	128	32.8				
2nd year	143	36.7				
3rd year	98	25.1				
4th year	20	5.1				
5th year	1	0.3				

Note. M = mean, *SD* = standard deviation, Min = minimum, Max = maximum.

Inferential Statistics

Correlation analysis was used to study the strength of a relationship between two variables by using Pearson's correlation coefficient, *r* (see Appendix J). After shyness and self-efficacy were controlled, the analyzed results showed that fear of failure has no significant correlation with creative process engagement, r (386) = .09, p = .07, and self-rated creativity, r (386) = -.03, p = .56. However, there was a moderate, positive significant correlation between creative process engagement and self-rated creativity, r (386) = .35, $p < .001$.

Table 4.3
Pearson correlations among FF, CPE, and SRC with shyness and self-efficacy being controlled (N = 390)

	FF	CPE	SRC
FF	1.00		
CPE	.09	1.00	
SRC	-.03	.35**	1.00

Note. FF = Fear of failure, CPE = Creative process engagement, SRC = Self-rated creativity.
**$p < .001$

Mediational analysis. Model 4 of PROCESS macro by Hayes (2013) with 10,000 bootstrapping and 95% confidence intervals (CI) was used to test if creative process engagement mediated the relationship between fear of failure and self-rated creativity, with both shyness and self-efficacy being controlled (see Appendix K).

The analysed results with shyness and self-efficacy being controlled showed that both path a of fear of failure on creative process engagement (B = .61, SE = .33, p = .07) and path c' of fear of failure on self-rated creativity (B = -.04, SE = .03, p = .19) were not significant, but path b of creative process engagement on self-rated creativity (B = .03, SE = .004, $p < .001$) was significant. Moreover, the direct effect of fear of failure on self-rated creativity, B = -.04, SE = .03, 95% CI [-.10, .02] and the indirect effect of fear of failure on self-rated

creativity through creative process engagement, *B* = .02, *SE* = .01, 95% CI [-.001, .04] were also found to be not significant.

The total effect of fear of failure on self-rated creativity was not significant as well, *B* = -.02, *SE* = .03, 95% CI [-.08, .04]. Based on the 95% confidence intervals (CI), the direct effect, the indirect effect, and the total effect were not statistically significant since their CI included zero (Hayes, 2013). Since the direct and indirect effect were insignificant, it was indicated that a full mediation or partial mediation did not occur in the study, as creative process engagement cannot mediate between fear of failure and self-rated creativity.

The mediation model displaying the relationship between fear of failure and self-rated creativity as mediated by creative process engagement, with shyness and self-efficacy being controlled was presented in Figure 4.1 below.

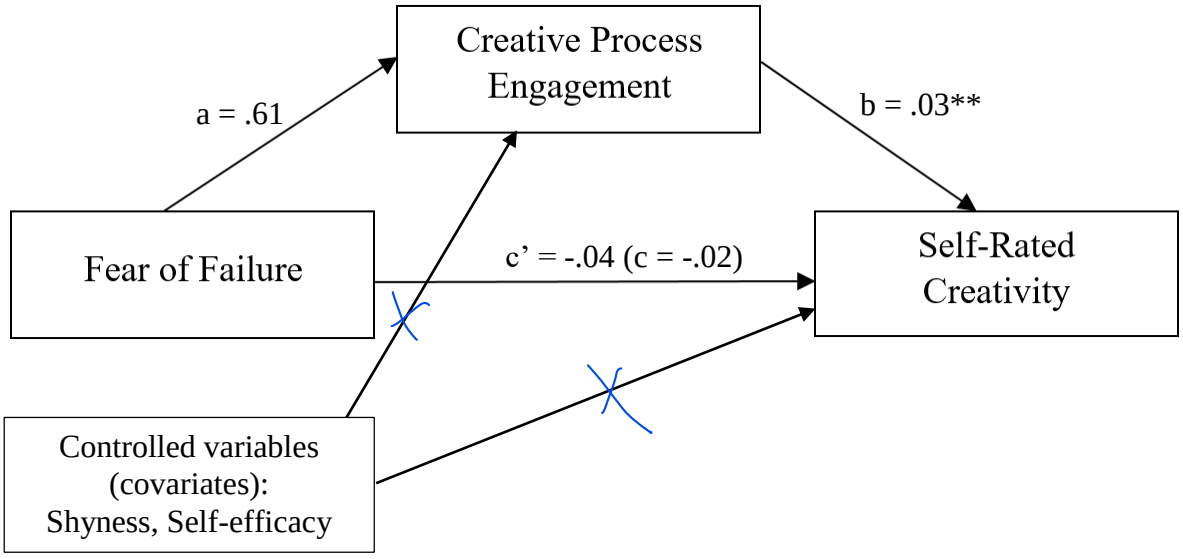

Figure 4.1. The above mediation model shows the unstandardized regression coefficients for the relationship between fear of failure and self-rated creativity as mediated by creative process engagement, with shyness and self-efficacy being controlled. The unstandardized regression coefficients for total effect between fear of failure and self-rated creativity is in parentheses. ***p* < .001.

Exploratory Analysis (Correlation)

Additionally, results for the correlation analysis involving all variables are presented in Table 4.4. Pearson correlation was used for the correlation analysis (see Appendix L). Self-efficacy, shyness, and self-rated creativity were found to significantly correlate with all the variables. Fear of failure was shown to have very weak negative significant correlation with self-rated creativity (r (388) = -.14, p = .01) when shyness and self-efficacy were not controlled.

Moreover, self-efficacy (r (388) = .52, p < .001) and creative process engagement (r (388) = .48, p < .001) were shown to have positive significant correlation with self-rated creativity, while shyness (r (388) = -.26, p < .001) was shown to have negative significant correlation with self-rated creativity. In short, the correlation analysis revealed that besides fear of failure; shyness, creative process engagement, and self-efficacy were able to correlate significantly with self-rated creativity.

Table 4.4
Intercorrelations for variables in the study (N = 390)

	FF	CPE	SRC	SHY	SE
FF	1.00				
CPE	.02	1.00			
SRC	-.14*	.48**	1.00		
SHY	.31**	-.11*	-.26**	1.00	
SE	-.15*	.41**	.52**	-.29**	1.00

Note. FF = Fear of failure, CPE = Creative process engagement, SRC = Self-rated creativity, Shy = Shyness, SE = Self-efficacy. *p < .05. **p < .001

Exploratory Analysis (Mediation)

Based on data driven approach, exploratory analysis was continued to be conducted with the use of PROCESS macro (model 4) by Hayes (2013) with 10,000 bootstrapping and 95% confidence intervals (CI). Interestingly, it was found that both self-efficacy and creative process engagement are able to mediate between shyness and creative self-rated creativity when fear of failure was being controlled (see Appendix M).

Results showed that path a_1 of shyness on self-efficacy (B = -2.04, SE = .39, $p < .001$), path a_2 of shyness on creative process engagement (B = -1.20, SE = .49, p = .01), path b_1 of self-efficacy on self-rated creativity (B = .04, SE = .01, $p < .001$), path b_2 of creative process engagement on self-rated creativity (B = .03, SE = .004, $p < .001$), and path c' of shyness on self-rated creativity (B = -.10, SE = .04, p = .01) was significant. Hence, all paths in the mediation model was statistically significant (see Figure 4.2).

The direct effect of shyness on self-rated creativity, B = -.10, SE = .04, 95% CI [-.18, -.02] was significant. Meanwhile, the indirect effects of shyness on self-rated creativity through creative process engagement, B = -.04, SE = .02, 95% CI [-.08, -.01] and through self-efficacy, B = -.09, SE = .02, 95% CI [-.14, -.04] was also found to be significant.

The total effect of shyness on self-rated creativity was significant as well, B = -.23, SE = .05, 95% CI [-.32, -.13]. Based on the 95% confidence intervals (CI), the direct effect, the indirect effect, and the total effect were statistically significant since their CI does not include zero (Hayes, 2013). Since both the direct and indirect effects was significant, it was indicated that a partial mediation occurred in the model. This assumes that with fear of failure being controlled, shyness is able to predict self-rated creativity, but self-efficacy or creative process engagement also mediates the effect.

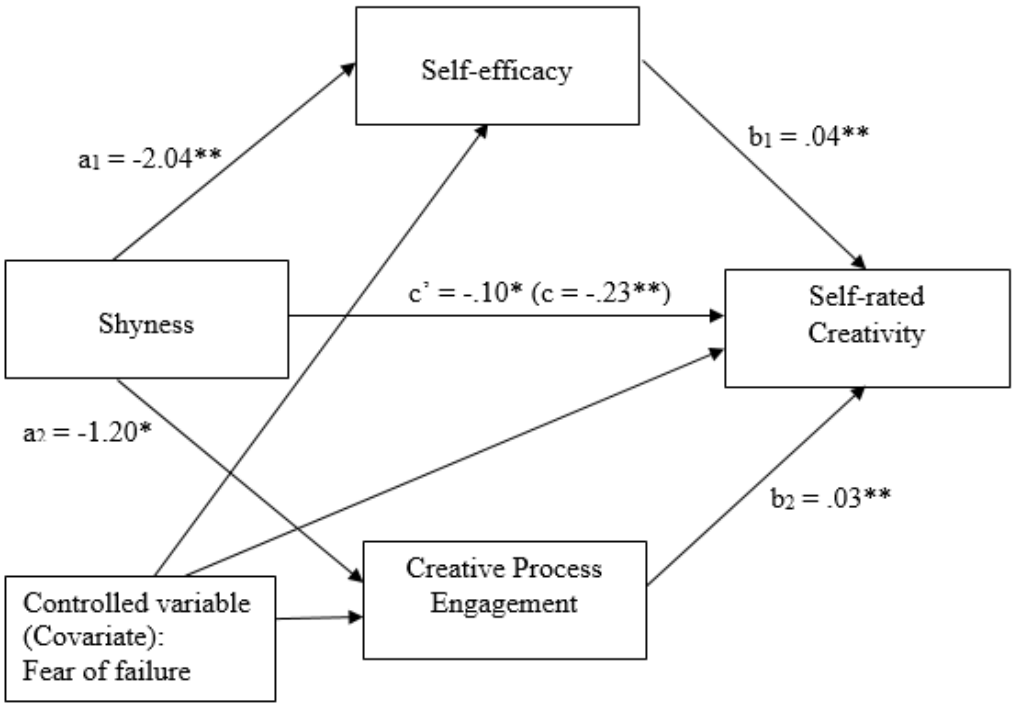

Figure 4.2. The above mediation model shows the unstandardized regression coefficients for the relationship between shyness and self-rated creativity as mediated by self-efficacy and creative process engagement, with fear of failure being controlled. The unstandardized regression coefficients for total effect between shyness and self-rated creativity is in parentheses. *p < .05. **p < .001.

Summary of Findings

Table 4.5
Correlational analysis results with shyness and self-efficacy being controlled (N=390)

Hypothesis	Results		Decision
	r	*p*	
H_1: There is a negative correlation between fear of failure and creative process engagement.	.09	.07	Rejected
H_2: Creative process engagement is positively associated with self-rated creativity.	.35	.00	Supported
H_3: There is a negative effect of fear of failure on self-rated creativity.	-.03	.56	Rejected

Note. r = Pearson's correlation coefficient; p = significant value.

Table 4.6
Mediational analysis results with shyness and self-efficacy being controlled (N=390)

Hypothesis	Results			Decision
	B	*SE*	95% CI	
H$_4$: Creative process engagement can mediate between fear of failure and self-rated creativity.	.02	.01	[-.001, .04]	Rejected

Note. B = unstandardized regression coefficients; *SE* = standard error; CI = confidence interval.

Chapter Summary

The results of the study showed that there was no correlation between fear of failure and creative process engagement or self-rated creativity when shyness and self-efficacy were being controlled. In addition, creative process engagement was also unable to mediate between fear of failure and self-rated creativity when shyness and self-efficacy were being controlled. As the direct and indirect effect of fear of failure on creativity were insignificant, it was indicated that a full mediation or partial mediation did not occur in the study. However, creative process engagement was found to be significantly correlated with self-rated creativity. Further exploratory correlation analysis showed that shyness was able to correlate significantly with creative process engagement, self-efficacy, and self-rated creativity. Further exploratory mediational analysis also showed that with fear of failure being controlled, shyness is able to predict self-rated creativity, but self-efficacy or creative process engagement also mediates the effect.

Chapter V

Discussion and Conclusion

Discussion

As previously mentioned, the aim of this study is to determine the effect of fear of failure on self-rated creativity, and the moderating role of creative process engagement between fear of failure and self-rated creativity. The present findings from correlation and mediation analysis indicated that no significant relationship was found between fear of failure and self-rated creativity when shyness and self-efficacy were controlled. Moreover, creative process engagement was also unable to mediate between fear of failure and self-rated creativity. These results did not support our first hypothesis, H_1 and fourth hypothesis, H_4.

Moreover, the results showed that there was no significant correlation between fear of failure and creative process engagement. Hence, the proposed second hypothesis, H_2 was also not supported. Although Caraway et al. (2003) stated that the students who are having a fear of failure are more likely to show less engagement in school-related tasks, but there was a weak relationship related to creative process engagement. In the organizational context, Nikhil and Arthi (2018) mentioned that employees tend to be creative without having a fear of failure in a supportive environment. They enhance their cognitive and emotional evaluation of their work and organization. The results may cause by the different response from the population of employees compared to undergraduate students. It is same as Steel (2007) who stated that people with fear of failure would procrastinate, spend lesser time and effort in a task, and demonstrating a lack of engagement in a task. The results may be influenced by different perspectives and cultures of the participants.

The proposed third hypothesis, H_3 was supported, as the results showed that creative process engagement is positively associated with self-rated creativity. The finding is supported by Tan et al. (2017) as their research also showed a positive relationship between

creative process engagement and self-rated creativity. This is because individuals who participate more in creativity-relevant tasks, such as identifying difficulties and searching for information, appeared to have higher creativity. Zhao and Gao (2014) also found that creative process engagement had a significant relationship with creativity of leader. It is because when a leader spends effort to more thoroughly analyze an issue, acquires as much knowledge as possible, and produces numerous ideas and solutions, it is more likely to have solutions that are both innovative and useful. Thus, innovative ideas can be created when a leader spends significant attention to an issue and wants to get involved completely in the creative process.

Therefore, creative process engagement is positively associated with self-rated creativity, as creative process engagement increases the level of creativity. Creative process engagement is a process of generating alternative ideas through individual's involvement, and it is necessary for producing creative outcomes. The more effort spends on the engagement in the creative process, the more creative ideas can be created.

Nonetheless, exploratory analysis was conducted to determine why the proposed hypotheses and the mediation model were not supported. Further correlation analysis showed that when shyness and self-efficacy were not controlled, fear of failure does have a negative significant correlation with self-rated creativity. However, the strength of correlation between them was actually very weak. Interestingly, shyness, self-efficacy, and creative process engagement were also found to have significant associations with creativity. Among all the variables, self-efficacy was shown to have the strongest correlation with creativity, followed by creative process engagement, shyness, and fear of failure. Therefore, based on our findings, fear of failure might not be a strong predictor of creativity as compared to other potential variables. what's the new hypothesis?

Hence, based on the data driven approach, exploratory analysis was continued to be conducted with the use of PROCESS macro (model 4) by Hayes (2013) with 10,000

bootstrapping and 95% confidence intervals (CI) to test a new proposed parallel mediation model (see Figure 4.2). The results showed that a partial mediation occurred in the model. When fear of failure is being controlled, shyness is able to predict creativity, but self-efficacy or creative process engagement also mediates the effect.

The study by Tan et al. (2017) investigated the relationship between shyness, creative process engagement, and self-rated creativity. Our exploratory findings further supported Tan et al.'s (2017) findings. Shyness was found to be indirectly linked to self-rated creativity, as it has a negative relationship on creative process engagement, and creative process engagement has a positive correlation with self-rated creativity.

Therefore, as shown in the new mediation model, besides creative process engagement, self-efficacy was also able to mediate between shyness and self-rated creativity. Hsiao et al. (2011) tested the impact of self-efficacy and innovative work behaviours, while teachers with higher self-efficacy have shown more innovative work behavior. Their findings was in line with our exploratory analysis' result of self-efficacy being able to predict creativity. Another finding from Liu et al. (2018) explained that self-efficacy mediated the relationship between shyness and positive subjective well-being.

Hence, we might have overlooked the fact that self-efficacy might be a potential mediator for the relationship between fear of failure and self-rated creativity in the present study. Tierney and Farmer (2002) explains that creative self-efficacy is the belief of a person having the ability to perform creative tasks, while several past studies (Mathisen & Bronnick, 2009; Beghetto, 2006; Haase, Hoff, Hanel & Innes-Ker, 2018) also employed the use of creative self-efficacy in examining creative performance. In short, we may have also overlooked the fact that creative self-efficacy was more suitable mediator for our proposed mediation model.

Implication of the Study

Theoretical Implication. The present study has attempted to fill in the knowledge gap in understanding the role of fear of failure on self-rated creativity with creative process engagement acting as the mediator. Nonetheless, the proposed mediation model used in this study's theoretical framework was not fully proven. Based on mediational analysis, although creative process engagement was found to have a positive significant relationship on self-rated creativity, the role of fear of failure as a predictor was not clearly demonstrated, as it did not have significant direct or indirect effect on self-rated creativity. Moreover, our chosen mediator (creative process engagement) was unable to mediate between fear of failure and self-rated creativity.

Two possibilities may be deduced from this outcome. Firstly, it might be due to fear of failure being less relevant to creativity, as demonstrated by the very weak correlation coefficients between fear of failure and self-rated creativity. Secondly, it may also be due to creative process engagement itself, is not a relevant mediator between fear of failure and self-rated creativity. Thus, as shown in the exploratory analysis, two possible directions are available for other researchers to consider. The first is to utilise a different predictor of creativity such as shyness, while controlling the effects of fear of failure. Besides, exploratory analysis also showed that besides creative process engagement, self-efficacy is also able to mediate between shyness and self-rated creativity. Hence, creative process engagement can be substituted with another mediator such as self-efficacy or creative self-efficacy specifically in future studies while examining the role of fear of failure on creativity. In short, future researchers who are interested to study shyness or fear of failure on creativity may further employ the suggested directions to find out whether fear of failure really plays a role on creativity.

Practical Implication. As there was a lack of research that studies fear of failure in the creativity context, this study has shed light on future creativity studies. Although the role of fear of failure on creativity was not clearly demonstrated in the present study, exploratory analyses were conducted in order to provide directions and source of reference for scholars on future studies. This study also identified the importance of studying creativity among undergraduates, while self-efficacy was shown to have substantial correlation with self-rated creativity. Thus, by understanding the predictors of creativity, university students, educators, and working adults are able to collaborate with each other to transform the industrial-based society into a knowledge-based society. For instance, trainers of creative workshops can implement ways to increase self-efficacy in their modules, which can potentially improve the effectiveness of their creative workshops.

Limitations and Recommendations

There were some limitations in this study. First of all, the researchers may have overestimate fear of failure's role as a predictor of creativity. Fear of failure might not have a strong relationship on creativity after all, as the results showed that fear of failure was either not significantly correlated with self-rated creativity when shyness and self-efficacy were being controlled; or have a weak significant correlation when shyness and self-efficacy were not being controlled. Recommendations for future studies to further examine the role of fear of failure on creativity include utilising a different predictor of creativity such as shyness, while controlling the effects of fear of failure, as shown in the exploratory analysis.

this is totally different from the present study!

Secondly, other possible mediators that might be more suitable for the proposed mediation model may be overlooked by researchers of the present study. Only one mediator (creative process engagement) was proposed for the mediation model, as the researchers have not considered other possible mediating variables. Hence, another mediation model has been

introduced in exploratory analysis and possible mediators such as self efficacy and creative self-efficacy were suggested in discussion.

Furthermore, a bias in response rate may arise and compromise a sample's representativeness. Since the participants of this research were recruited via paper-and-pencil survey, they will feel their comments are not confidential and worry that instructors will be able to track the feedback. It causes participants to be less transparent and truthful about their ratings. Participants from other courses will also affect the results due to they might not understand the words in terms which involved the field of psychology. Hence, the interpretation of the study's findings might be affected.

As a recommendation, the items in the survey questionnaire should be written explicitly to enhance the reliability of the scales and the participants should easily understand the meaning of the terms. A further way to address this issue is to convert the questionnaire into several versions, such as Malay and Mandarin versions. Before evaluating the items on the scales, the participants should have been able to completely understand the items in their preferred language.

Moreover, this research was vulnerable to selection bias because of the non-probability sampling. This is because the participants were recruited through paper-and-pencil survey by using convenience and snowball sampling. Selection bias existed when only those are easily accessible to the researcher could answer the survey and those who were not accessible to the researcher were unable to participate in the survey. Therefore, the collected sample might not be enough to represent the general population.

To reduce the selection bias, it is recommended that future researchers distribute the questionnaire through paper-and-pencil survey and online survey with the use of probability sampling. Hence, those who were inaccessible to the researcher would be eligible to

participate in the survey, while the use of probability sampling may increase the odds of the collected sample to be more representative the general population.

Chapter Summary

This chapter discussed the findings of this study in relation to the proposed research hypotheses. Although three hypotheses in the study were not supported, the theoretical implication of the findings may provide further directions for future scholars who wish to find out whether fear of failure really plays a role on creativity. Exploratory analysis found out that self-efficacy are significantly related to creativity. Hence, the practical implication of the findings noted the importance of studying creativity, as trainers of creative workshops may implement ways to increase self-efficacy in their modules, which can potentially improve the effectiveness of their creative workshops. Lastly, several limitations were listed and the recommendations for future studies were also presented in this chapter.

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Appendix A: Participant Information Sheet

Department of Psychology and Counselling
Faculty of Arts and Social Science
Universiti Tunku Abdul Rahman

Participant Information Sheet

Introduction and Purpose of the Study
We would like to conduct a research study to examine the relationship between fear of failure, creative process engagement and self-rated creativity among undergraduate students in Malaysia. This study is done to fulfil the requirements of UAPZ3013 Final Year Project 1 and UAPZ3023 Final Year Project 2.

Procedures and Confidentiality
The following questionnaire contains 6 sections (Section A-Section F) and will require approximately **15-20 minutes** to complete. All information provided will remain as **private and confidential**. Your responses will be coded numerically for research interpretation. The responses provided will only be reported as group data with no identifying information and will only be used for **academic purposes**. In order to collect the required information, your participation in this research study is highly appreciated.

Participation
Your participation will remain anonymous and confidential. Your information will not be disclosed to any unauthorized person and would be accessible only by the researchers of this study. Participation in this study is **voluntary**, you are free to **withdraw** with consent and discontinue anytime without prejudice. Your cooperation would be greatly appreciated.

Contact Information
Please feel free to contact the researchers via jtauyi@1utar.my (Jason Lim Tau Yi), tanweisen1997@1utar.my (Tan Wei Sen), or chinyao9233@gmail.com (Nicholas Tsai Chin Yao) if you have any questions concerning the research. You may also contact our supervisor, Dr Tan Chee-Seng at tcseng@utar.edu.my if you wish to enquire future directions regarding this research project.

If you choose to participate in this project, please answer all the questions honestly and return the completed questionnaire promptly.

Sincerely,
Jason Lim Tau Yi
Tan Wei Sen
Nicholas Tsai Chin Yao

Appendix A: Participant Information Sheet - continued

By signing this form, I am stating that I am at least 18 years old and that I understand the above information and consent to participate in this study voluntarily.

_____ Participant's Printed Name (optional)	_____ Participant's Signature	_____ Date

Appendix B: Performance Failure Appraisal Inventory Short-Form (PFAI-SF)

Instruction: Please select a number from 1 *(Do not believe at all)* to 5 *(Believe 100% of the time)* for each statement below to indicate to what extent you believe in that statement.

Items	Do not believe at all		Believe 50% of the time		Believe 100% of the time
1. When I am failing, I am afraid that I might not have enough talent.	1	2	3	4	5
2. When I am not succeeding, people are less interested in me.	1	2	3	4	5
3. When I am failing, important others are disappointed.	1	2	3	4	5
4. When I am failing, I worry about what others think about me.	1	2	3	4	5

Appendix C: Creative Process Engagement Scale (CPES)

Instruction: Please select a number from 1 *(Never)* to 5 *(Very frequently)* for each statement below to indicate to what extent do you engage in the follow actions when seeking to accomplish an assignment or solve a problem.

Items	Never	Rarely	Occasion-ally	Frequent-ly	Very frequent-ly
1. I spend considerable time trying to understand the nature of the problem.	1	2	3	4	5
2. I think about the problem from multiple perspectives.	1	2	3	4	5
3. I decompose a difficult problem/assignment into parts to obtain greater understanding.	1	2	3	4	5
4. I consult a wide variety of information.	1	2	3	4	5
5. I search for information from multiple sources (e.g., personal memories, others' experience, documentation, Internet, etc.).	1	2	3	4	5
6. I retain large amounts of detailed information in my area of expertise for future use.	1	2	3	4	5
7. I consider diverse sources of information in generating new ideas.	1	2	3	4	5
8. I look for connections with solutions used in seeming diverse areas.	1	2	3	4	5
9. I generate a significant number of alternatives to the same problem before I choose the final solution.	1	2	3	4	5

Appendix C: Creative Process Engagement Scale (CPES) – continued

10. I try to devise potential solutions that move away from established ways of doing things.	1	2	3	4	5
11. I spend considerable time shifting through information that helps to generate new ideas.	1	2	3	4	5

Appendix D: Self-rated Creativity Scale (SRCS)

Instruction: Please select a number from 1 *(Strongly disagree)* to 5 *(Strongly agree)* for each statement below to indicate the extent to which you agree or disagree with that statement.

Items	Strongly disagree	Disagree a little	Neither disagree nor agree	Agree a little	Strongly agree
1. I suggest new ways to achieve goals or objectives.	1	2	3	4	5
2. I come up with new and practical ideas to improve performance.	1	2	3	4	5
3. I search out new technologies, processes, techniques, and/or product ideas.	1	2	3	4	5
4. I suggest new ways to increase quality.	1	2	3	4	5
5. I am a good source of creative ideas.	1	2	3	4	5
6. I am not afraid to take risks.	1	2	3	4	5
7. I promote and champion ideas to others.	1	2	3	4	5
8. I exhibit creativity on the work when given the opportunity to.	1	2	3	4	5
9. I often have new and innovative ideas.	1	2	3	4	5
10. I come up with creative solutions to problems.	1	2	3	4	5
11. I often have a fresh approach to problems.	1	2	3	4	5
12. I suggest new ways of performing work tasks.	1	2	3	4	5

Appendix E: Revised Cheek and Buss Shyness Scale (RCBS)

Instruction: Please select a number from 1 *(Strongly disagree)* to 5 *(Strongly agree)* for each statement below to indicate the extent to which you agree or disagree with that statement.

Items	Strongly disagree	Disagree a little	Neither disagree nor agree	Agree a little	Strongly agree
1. I feel tense when I'm with people I don't know well.	1	2	3	4	5
2. I am socially somewhat awkward.	1	2	3	4	5
3. I do not find it difficult to ask other people for information.	1	2	3	4	5
4. I am often uncomfortable at parties and other social functions.	1	2	3	4	5
5. When in a group of people, I have trouble thinking of the right things to talk about.	1	2	3	4	5
6. It does not take me long to overcome my shyness in new situations.	1	2	3	4	5
7. It is hard for me to act natural when I am meeting new people.	1	2	3	4	5
8. I feel nervous when speaking to someone in authority.	1	2	3	4	5
9. I have no doubts about my social competence.	1	2	3	4	5
10. I have trouble looking someone right in the eye.	1	2	3	4	5
11. I feel inhibited in social situations.	1	2	3	4	5
12. I do not find it hard to talk to strangers.	1	2	3	4	5
13. I am more shy with members of the opposite sex.	1	2	3	4	5

Appendix F: New General Self-Efficacy (NGSE)

Instruction: Please select a number from 1 *(Strongly disagree)* to 5 *(Strongly agree)* for each statement below to indicate the extent to which you agree or disagree with that statement.

Items	Strongly disagree	Disagree a little	Neither disagree nor agree	Agree a little	Strongly agree
1. I will be able to achieve most of the goals that I have set for myself.	1	2	3	4	5
2. When facing difficult tasks, I am certain that I will accomplish them.	1	2	3	4	5
3. In general, I think that I can obtain outcomes that are important to me.	1	2	3	4	5
4. I believe I can succeed at most any endeavor to which I set my mind.	1	2	3	4	5
5. I will be able to successfully overcome many challenges.	1	2	3	4	5
6. I am confident that I can perform effectively on many different tasks.	1	2	3	4	5
7. Compared to other people, I can do most tasks very well.	1	2	3	4	5
8. Even when things are tough, I can perform quite well.	1	2	3	4	5

Appendix G: Demographic Information

Instruction: Please fill in your personal details or circle **ONE** option.

a.) Age: _____

b.) Gender: 1. Male 2. Female

c.) Ethnicity: 1. Malay 2. Chinese
3. Indian 4. Others

d.) Name of the university you are currently being enrolled in: (eg., UTAR Kampar)

_____

e.) Name of the course you are currently studying: (eg., BEng (Hons) Civil Engineering)

_____

f.) Year of Study: (eg., Year 1 Sem 1)

_____

g.) Do you wish to receive a copy of the research results afterwards? If yes, please state your email below:

_____

Appendix H: Ethical Approval Letter for Research Project

UNIVERSITI TUNKU ABDUL RAHMAN
Wholly Owned by UTAR Education Foundation (Company No. 578227-M)

Re: U/SERC/226/2019

29 November 2019

Dr Chie Qiu Ting
Head, Department of Psychology and Counselling
Faculty of Arts and Social Science
Universiti Tunku Abdul Rahman
Jalan Universiti, Bandar Baru Barat
31900 Kampar, Perak.

Dear Dr Chie,

Ethical Approval For Research Project/Protocol

We refer to the application for ethical approval for your students' research project from Bachelor of Social Science (Hons) Psychology programme enrolled in course UAPZ3013/UAPZ3023. We are pleased to inform you that the application has been approved under expedited review.

The details of the research projects are as follows:

	Research Title	Student's Name	Supervisor's Name	Approval Validity
1.	The Relationship between Fear of Failure, Creative Process Engagement, and Self-Rated Creativity Among Malaysian Undergraduates	1. Jason Lim Tau Yi 2. Tan Wei Sen 3. Nicholas Tsai Chin Yao	Dr Tan Chee Seng	29 November 2019 – 28 November 2020

The conduct of this research is subject to the following:

(1) The participants' informed consent be obtained prior to the commencement of the research;

(2) Confidentiality of participants' personal data must be maintained; and

(3) Compliance with procedures set out in related policies of UTAR such as the UTAR Research Ethics and Code of Conduct, Code of Practice for Research Involving Humans and other related policies/guidelines.

Should the students collect personal data of participants in their studies, please have the participants sign the attached Personal Data Protection Statement for records.

Thank you.

Yours sincerely,

Professor Ts Dr Faidz bin Abd Rahman
Chairman
UTAR Scientific and Ethical Review Committee

c.c Dean, Faculty of Arts and Social Science
Director, Institute of Postgraduate Studies and Research

Kampar Campus : Jalan Universiti, Bandar Barat, 31900 Kampar, Perak Darul Ridzuan, Malaysia
Tel: (605) 468 8888 **Fax**: (605) 466 1313
Sungai Long Campus : Jalan Sungai Long, Bandar Sungai Long, Cheras, 43000 Kajang, Selangor Darul Ehsan, Malaysia
Tel: (603) 9086 0288 **Fax**: (603) 9019 8868
Website: www.utar.edu.my

Appendix I: Univariate Outliers Detected through Boxplot

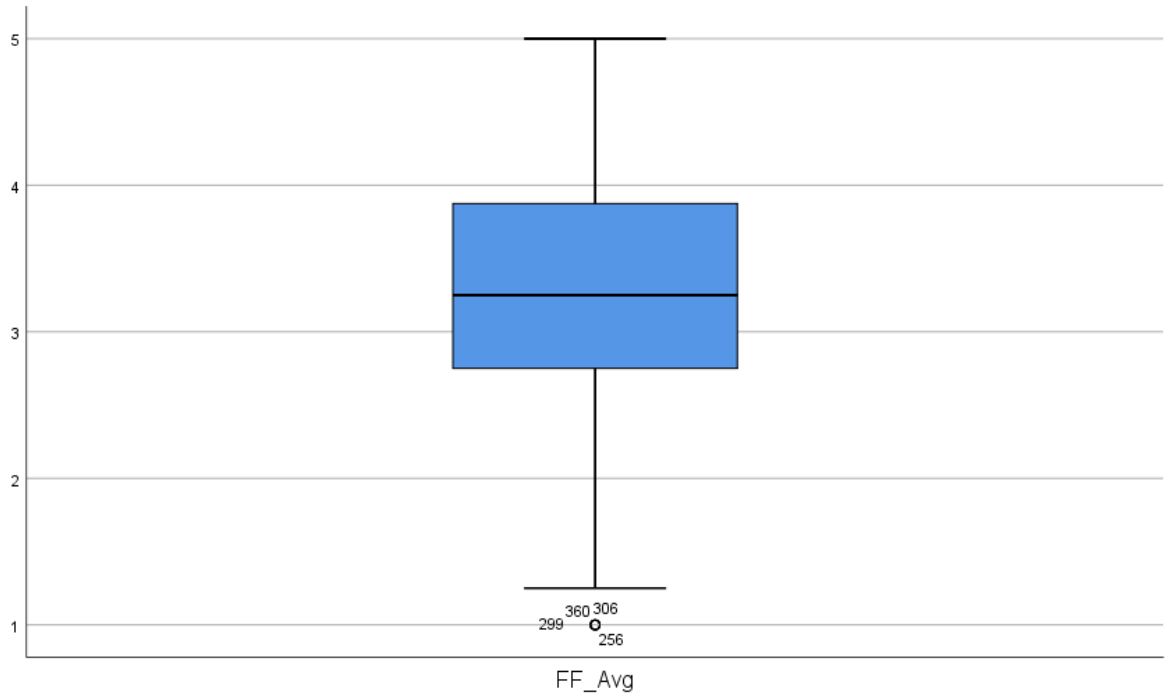


Figure 6.1. First round of outliers detected for Performance Failure Appraisal Inventory Short-Form (PFAI-SF) during actual study.

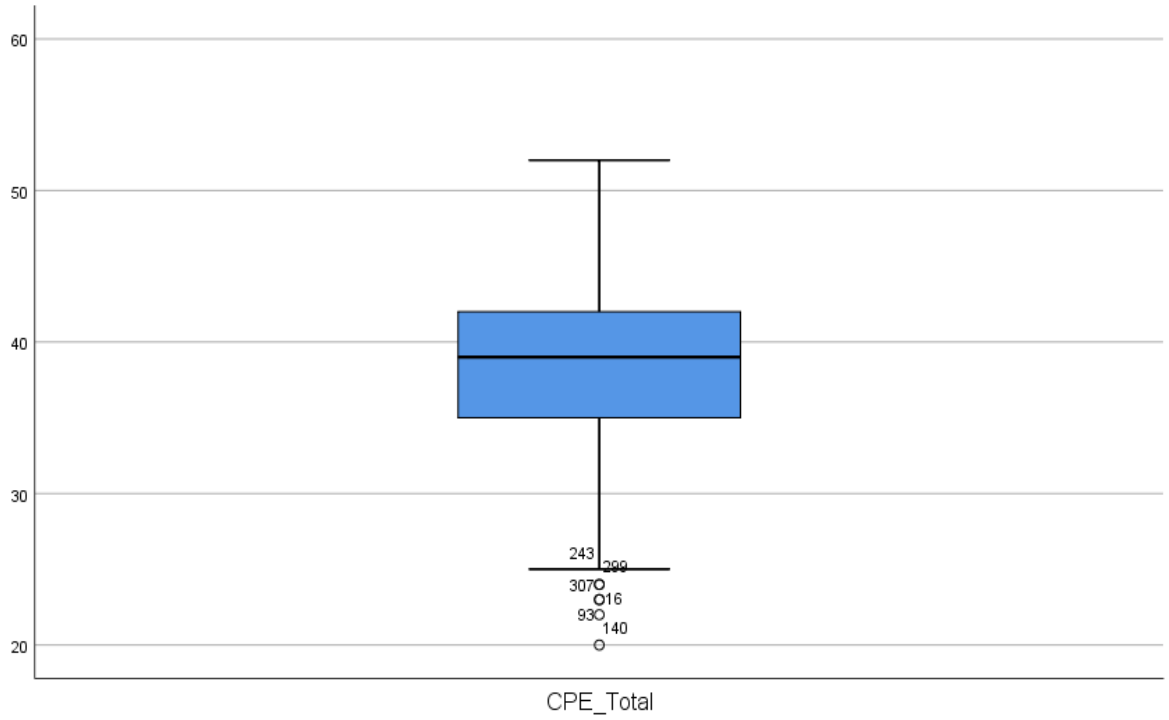


Figure 6.2. First round of outliers detected for Creative Process Engagement Scale (CPES) during actual study.

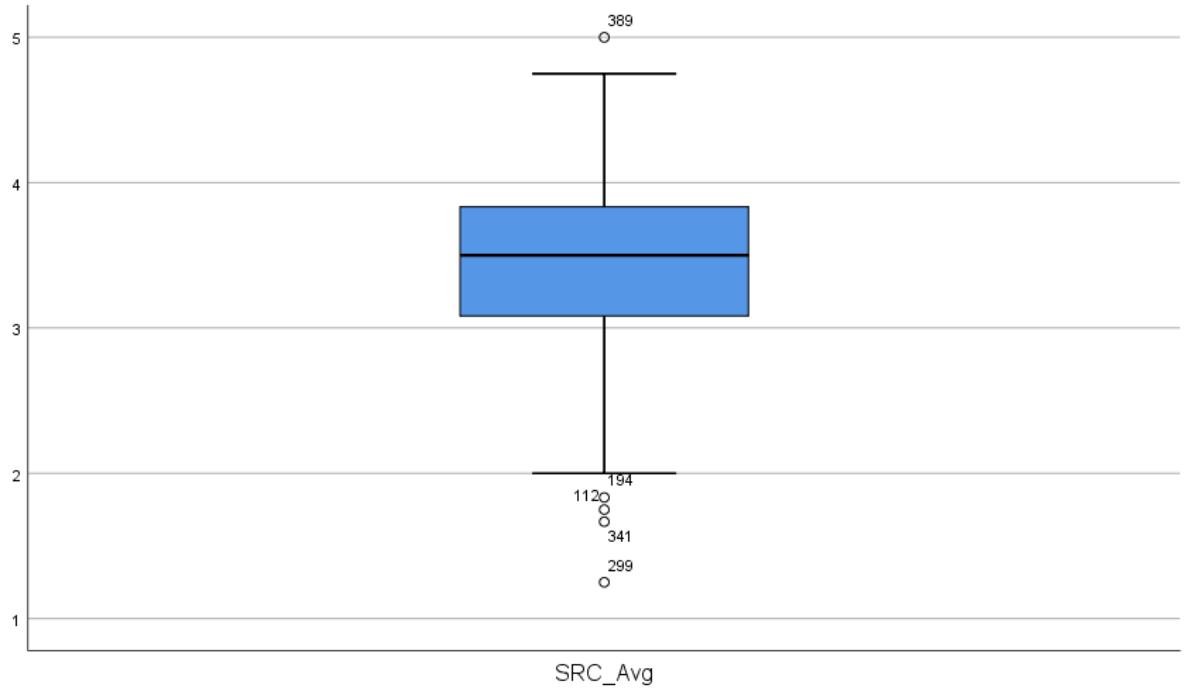


Figure 6.3. First round of outliers detected for Self-rated Creativity Scale (SRCS) during actual study.

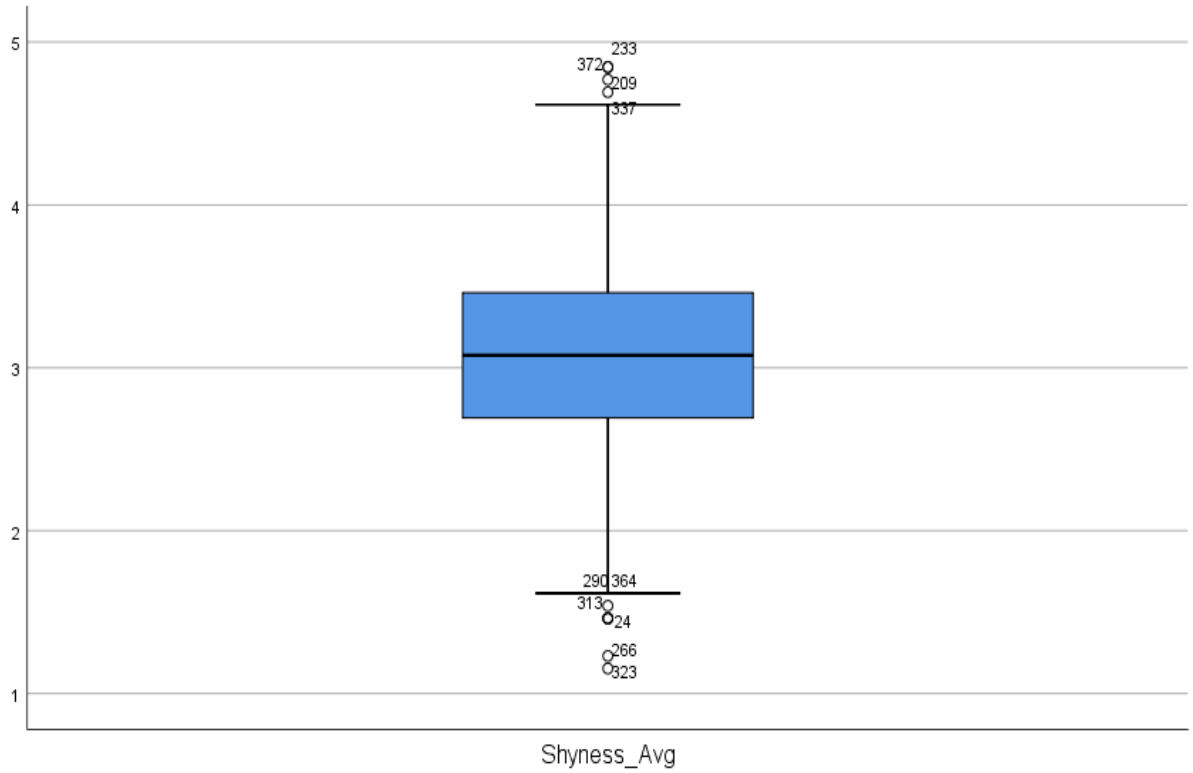


Figure 6.4. First round of outliers detected for Revised Cheek and Buss Shyness Scale (RCBS) during actual study.

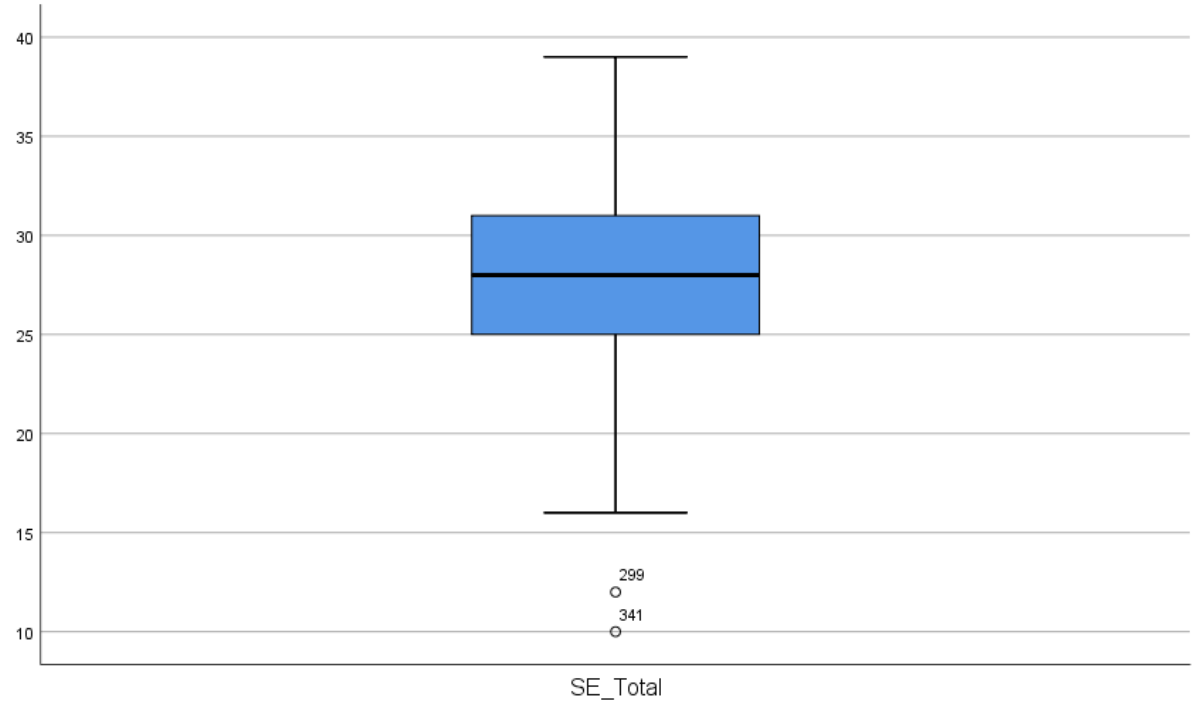


Figure 6.5. First round of outliers detected for New General Self-Efficacy (NGSE) during actual study.

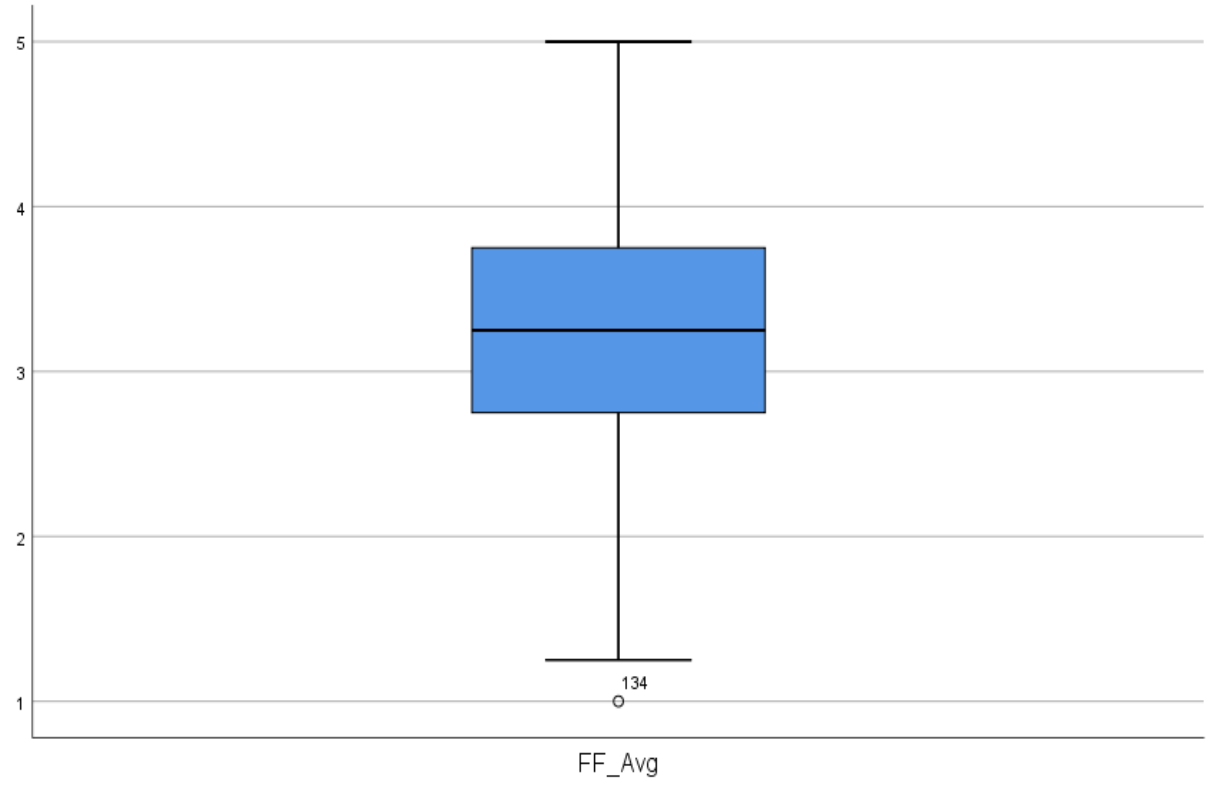


Figure 6.6. Second round of outliers detected for Performance Failure Appraisal Inventory Short-Form (PFAI-SF) during actual study.

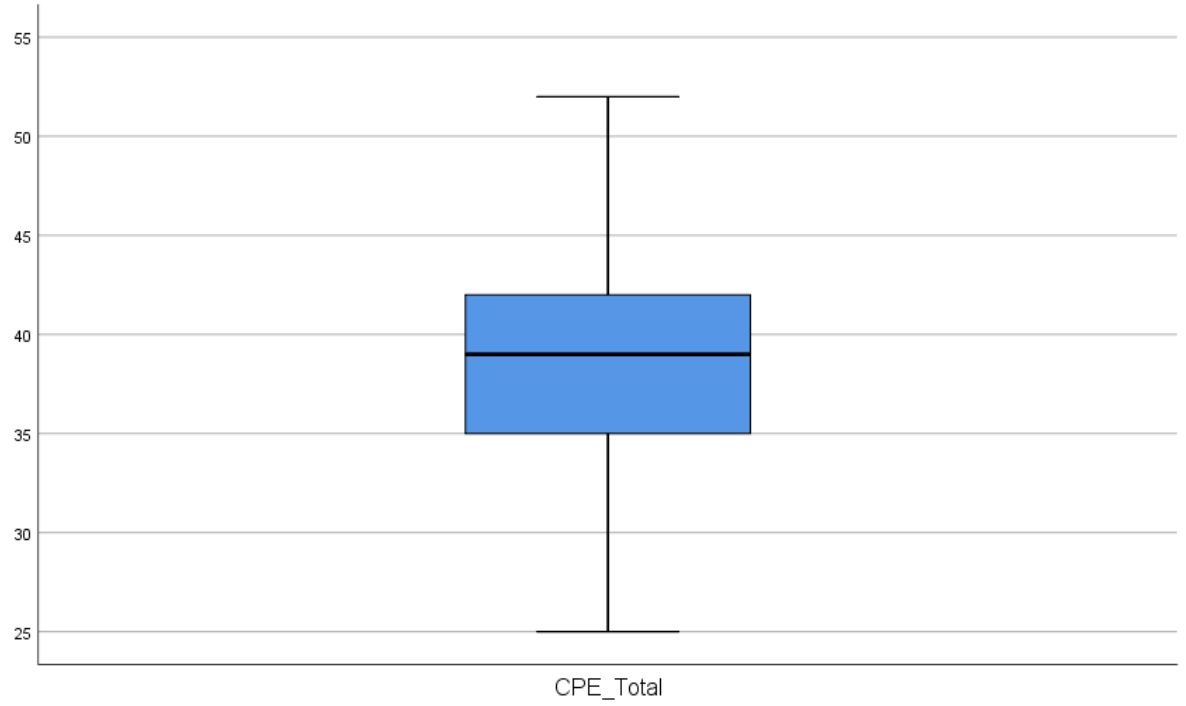


Figure 6.7. Second round of outliers detected for Creative Process Engagement Scale (CPES) during actual study.

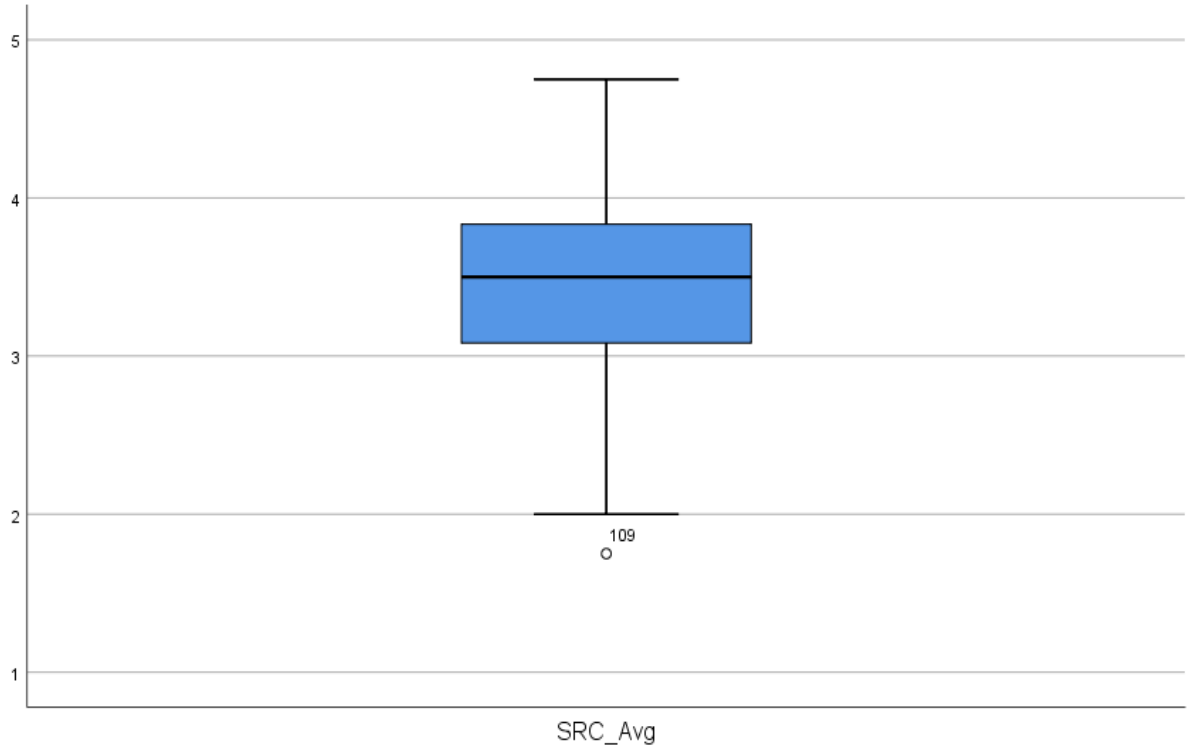


Figure 6.8. Second round of outliers detected for Self-rated Creativity Scale (SRCS) during actual study.

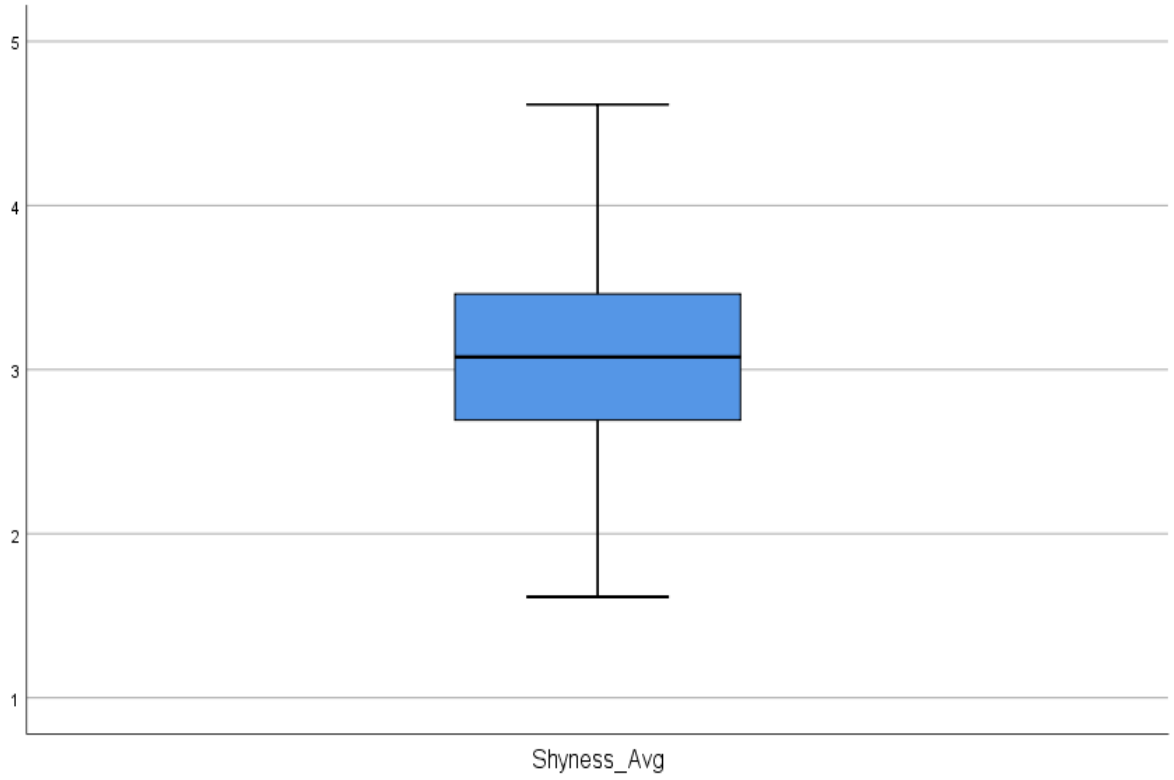


Figure 6.9. Second round of outliers detected for Revised Cheek and Buss Shyness Scale (RCBS) during actual study.

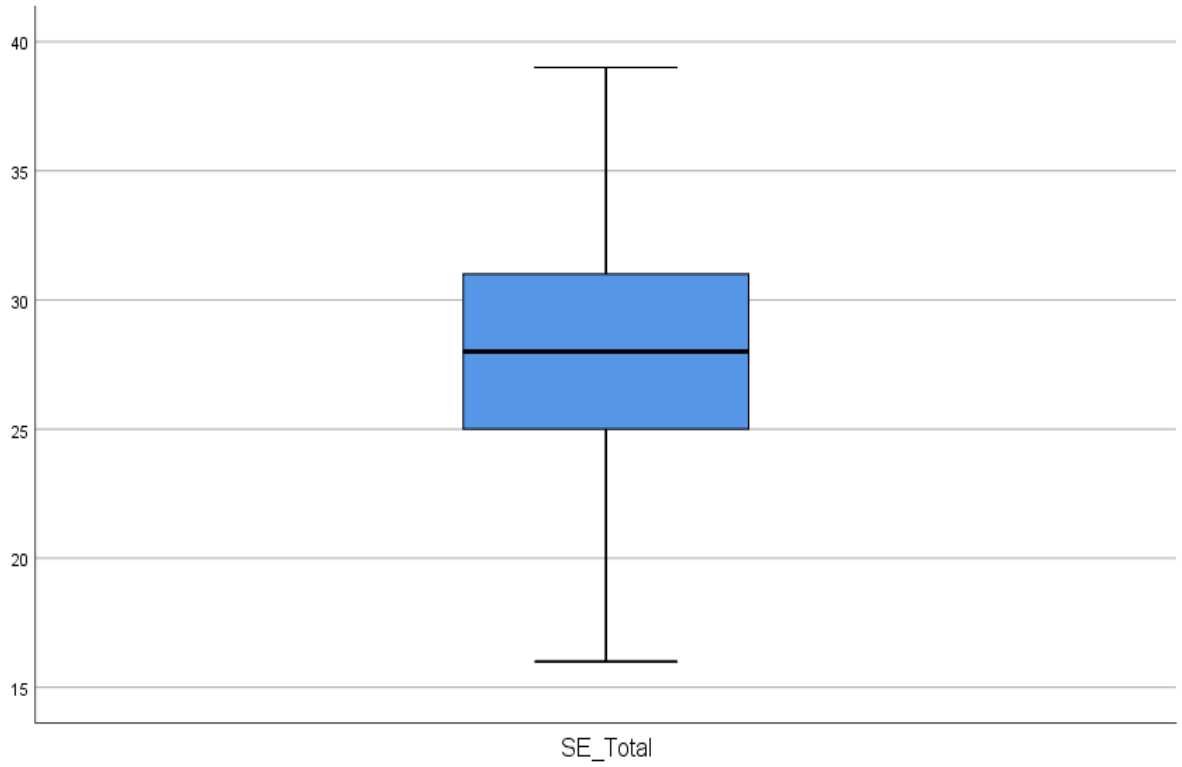


Figure 6.10. Second round of outliers detected for New General Self-Efficacy (NGSE) during actual study.

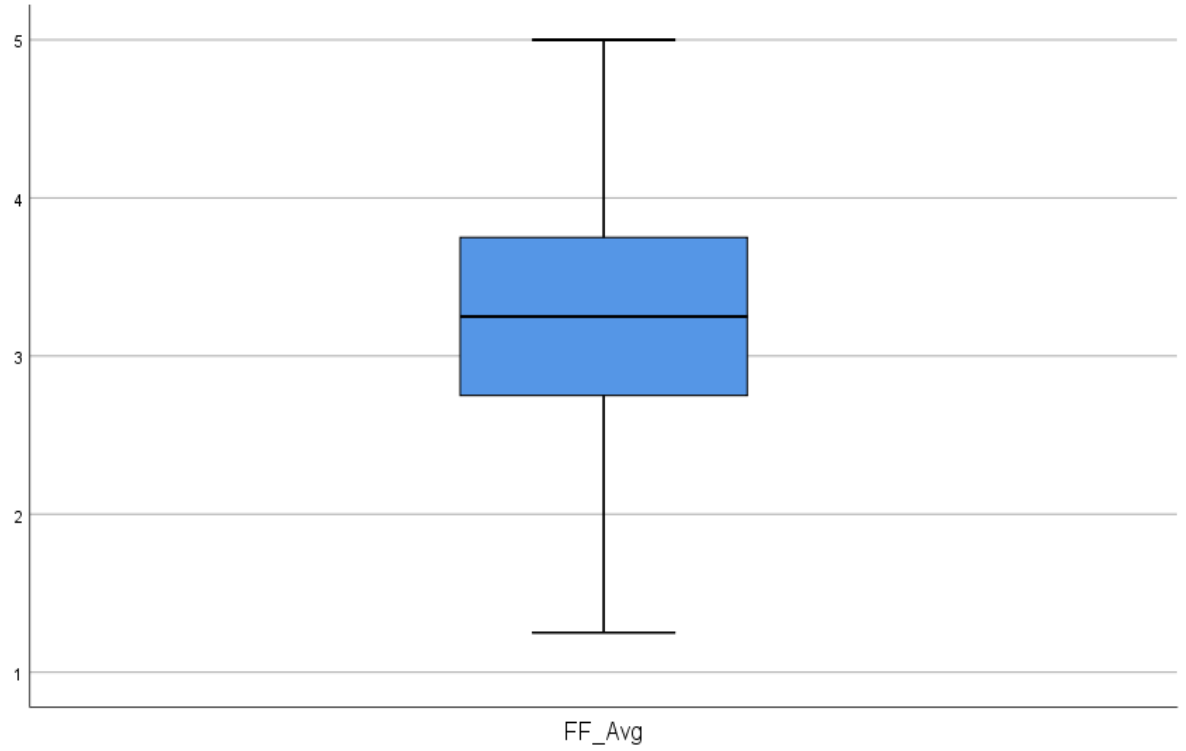


Figure 6.11. Third round of outliers detected for Performance Failure Appraisal Inventory Short-Form (PFAI-SF) during actual study.

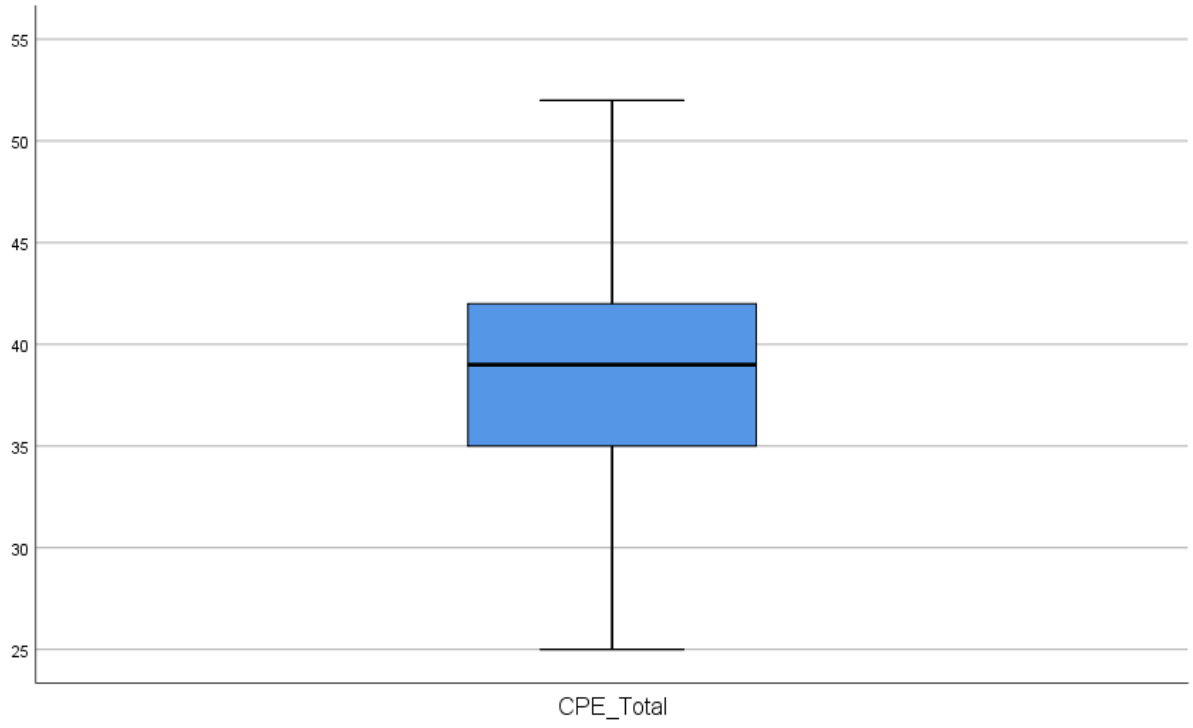


Figure 6.12. Third round of outliers detected for Creative Process Engagement Scale (CPES) during actual study.

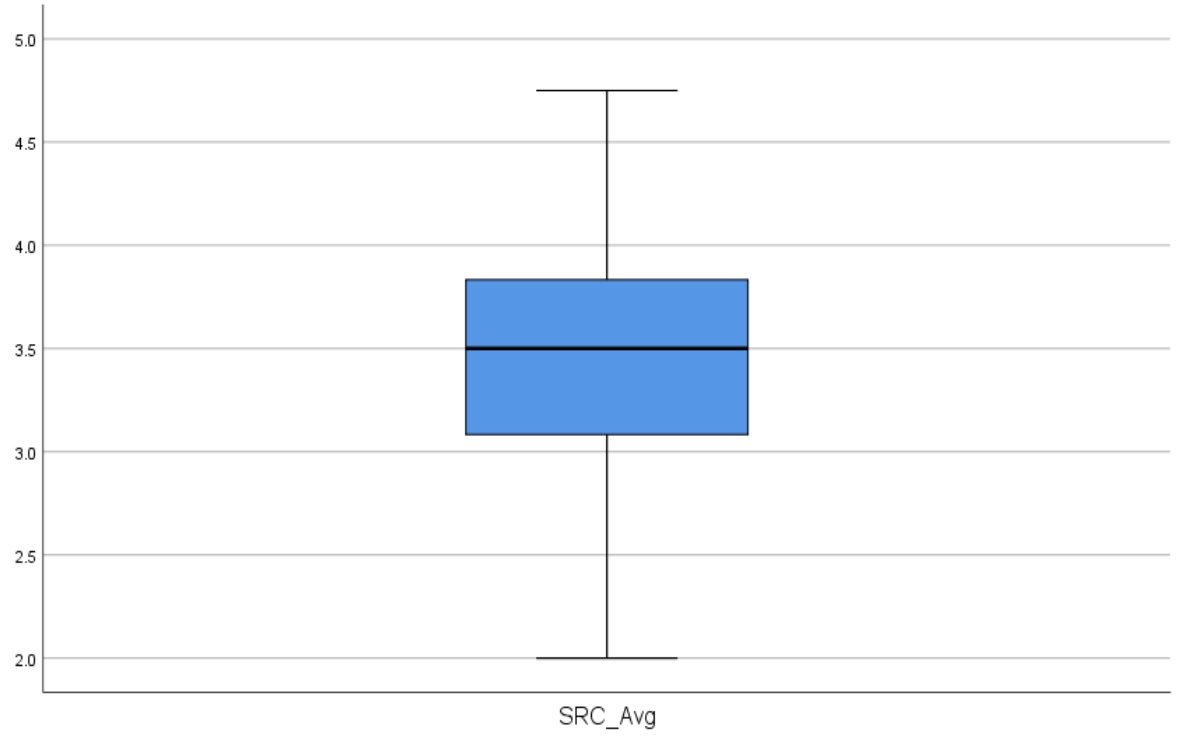


Figure 6.13. Third round of outliers detected for Self-rated Creativity Scale (SRCS) during actual study.

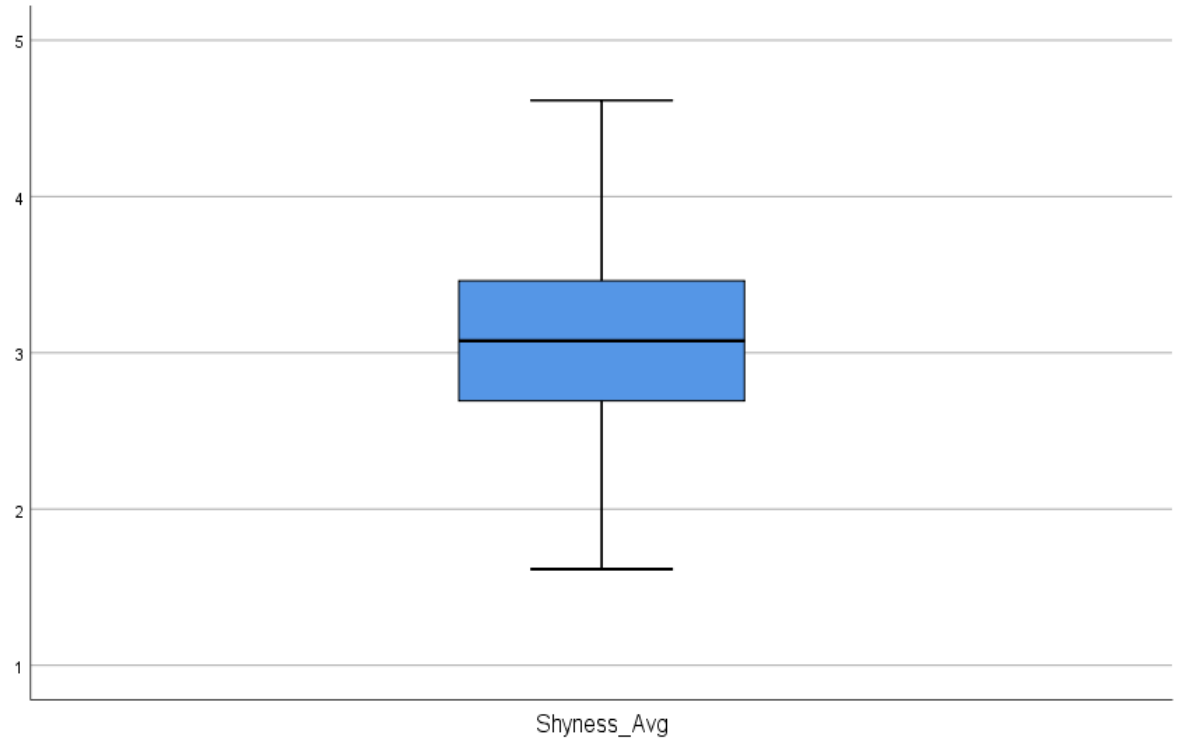


Figure 6.14. Third round of outliers detected for Revised Cheek and Buss Shyness Scale (RCBS) during actual study.

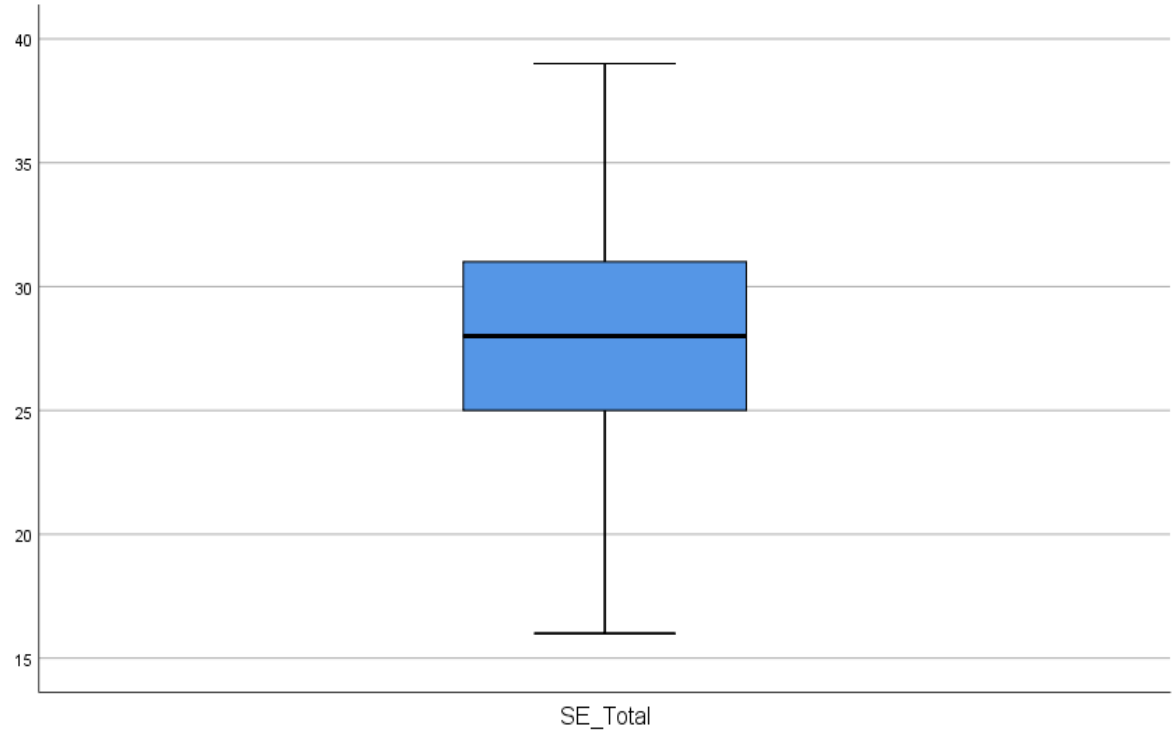


Figure 6.15. Third round of outliers detected for New General Self-Efficacy (NGSE) during actual study.

Appendix J: SPSS Output of Corerelation Analysis

Correlations

Control Variables			FF_Avg	CPE_Total	SRC_Avg
Shyness_Avg & SE_Total	FF_Avg	Correlation	1.000	.094	-.030
		Significance (2-tailed)	.	.065	.559
		df	0	386	386
	CPE_Total	Correlation	.094	1.000	.349
		Significance (2-tailed)	.065	.	.000
		df	386	0	386
	SRC_Avg	Correlation	-.030	.349	1.000
		Significance (2-tailed)	.559	.000	.
		df	386	386	0

Appendix K: SPSS Output of Mediation Analysis using Hayes' PROCESS Macro Model 4

```
Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 3.4 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 4
    Y  : SRC_Avg
    X  : FF_Avg
    M  : CPE_Tota

Covariates:
 Shyness_ SE_Total

Sample
Size:  390

**************************************************************************
OUTCOME VARIABLE:
 CPE_Tota

Model Summary
          R       R-sq        MSE          F        df1        df2
p
      .4222      .1782    22.1478    27.9064     3.0000
386.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant   23.2219     2.5198     9.2158      .0000    18.2677    28.1762
FF_Avg       .6086      .3293     1.8479      .0654     -.0389     1.2561
Shyness_    -.1684      .4632     -.3636      .7164    -1.0791      .7422
SE_Total     .5068      .0580     8.7358      .0000      .3927      .6209

**************************************************************************
OUTCOME VARIABLE:
 SRC_Avg

Model Summary
          R       R-sq        MSE          F        df1        df2
p
      .6134      .3763      .1700    58.0648     4.0000
385.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant    1.4657      .2438     6.0114      .0000      .9863     1.9450
FF_Avg      -.0381      .0290    -1.3151      .1893     -.0951      .0189
CPE_Tota     .0331      .0045     7.4136      .0000      .0243      .0418
Shyness_    -.1014      .0406    -2.4998      .0128     -.1812     -.0217
SE_Total     .0418      .0056     7.5113      .0000      .0308      .0527
```

Appendix K: SPSS Output of Mediation Analysis using Hayes' PROCESS Macro Model 4 - continued

```
************************** TOTAL EFFECT MODEL ****************************
OUTCOME VARIABLE:
 SRC_Avg

Model Summary
          R       R-sq        MSE          F        df1        df2
p
      .5359      .2872      .1937    51.8508     3.0000
386.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant    2.2333      .2357     9.4767      .0000     1.7699     2.6966
FF_Avg      -.0180      .0308     -.5841      .5595     -.0785      .0426
Shyness_    -.1070      .0433    -2.4704      .0139     -.1922     -.0218
SE_Total     .0585      .0054    10.7874      .0000      .0479      .0692

************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************

Total effect of X on Y
     Effect         se          t          p       LLCI       ULCI
     -.0180      .0308     -.5841      .5595     -.0785      .0426

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI
     -.0381      .0290    -1.3151      .1893     -.0951      .0189

Indirect effect(s) of X on Y:
            Effect     BootSE   BootLLCI   BootULCI
CPE_Tota     .0201      .0116     -.0013      .0441

*********************** ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  10000

NOTE: Variables names longer than eight characters can produce incorrect
output.
      Shorter variable names are recommended.

------ END MATRIX -----
```

Appendix L: SPSS Output of Corerelation Analysis (Exploratory Analysis)

Correlations

		FF_Avg	CPE_Total	SRC_Avg	Shyness_Avg	SE_Total
FF_Avg	Pearson Correlation	1	.021	-.136**	.311**	-.151**
	Sig. (2-tailed)		.686	.007	.000	.003
	N	390	390	390	390	390
CPE_Total	Pearson Correlation	.021	1	.483**	-.111*	.413**
	Sig. (2-tailed)	.686		.000	.028	.000
	N	390	390	390	390	390
SRC_Avg	Pearson Correlation	-.136**	.483**	1	-.263**	.522**
	Sig. (2-tailed)	.007	.000		.000	.000
	N	390	390	390	390	390
Shyness_Avg	Pearson Correlation	.311**	-.111*	-.263**	1	-.287**
	Sig. (2-tailed)	.000	.028	.000		.000
	N	390	390	390	390	390
SE_Total	Pearson Correlation	-.151**	.413**	.522**	-.287**	1
	Sig. (2-tailed)	.003	.000	.000	.000	
	N	390	390	390	390	390

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

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

Appendix M: SPSS Output of Mediation Analysis using Hayes' PROCESS Macro Model 4 (Exploratory Analysis)

```
Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 3.4 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 4
    Y  : SRC_Avg
    X  : Shyness_
   M1  : CPE_Tota
   M2  : SE_Total

Covariates:
 FF_Avg

Sample
Size:  390

**************************************************************************
OUTCOME VARIABLE:
 CPE_Tota

Model Summary
          R       R-sq        MSE          F        df1        df2
p
      .1256      .0158    26.4579     3.0995     2.0000
387.0000      .0462

Model
             coeff         se          t          p       LLCI       ULCI
constant    41.0994     1.6068    25.5780      .0000    37.9402    44.2586
Shyness_    -1.2022      .4894    -2.4562      .0145    -2.1645     -.2399
FF_Avg        .4130      .3591     1.1500      .2508     -.2931     1.1191

**************************************************************************
OUTCOME VARIABLE:
 SE_Total

Model Summary
          R       R-sq        MSE          F        df1        df2
p
      .2943      .0866    17.0047    18.3466     2.0000
387.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant    35.2760     1.2882    27.3844      .0000    32.7433    37.8087
Shyness_    -2.0398      .3924    -5.1987      .0000    -2.8113    -1.2684
FF_Avg       -.3859      .2879    -1.3404      .1809     -.9520      .1801

**************************************************************************
OUTCOME VARIABLE:
 SRC_Avg

Model Summary
```

Appendix M: SPSS Output of Mediation Analysis using Hayes' PROCESS Macro Model 4 (Exploratory Analysis) - continued

```
          R       R-sq        MSE          F        df1        df2
p
      .6134      .3763      .1700    58.0648     4.0000
385.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     1.4657      .2438     6.0114      .0000      .9863     1.9450
Shyness_     -.1014      .0406    -2.4998      .0128     -.1812     -.0217
CPE_Tota      .0331      .0045     7.4136      .0000      .0243      .0418
SE_Total      .0418      .0056     7.5113      .0000      .0308      .0527
FF_Avg       -.0381      .0290    -1.3151      .1893     -.0951      .0189

************************** TOTAL EFFECT MODEL ****************************
OUTCOME VARIABLE:
 SRC_Avg

Model Summary
          R       R-sq        MSE          F        df1        df2
p
      .2690      .0724      .2515    15.0928     2.0000
387.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     4.2979      .1567    27.4361      .0000     3.9899     4.6059
Shyness_     -.2264      .0477    -4.7448      .0000     -.3202     -.1326
FF_Avg       -.0406      .0350    -1.1590      .2472     -.1094      .0283

************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************

Total effect of X on Y
     Effect         se          t          p       LLCI       ULCI
     -.2264      .0477    -4.7448      .0000     -.3202     -.1326

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI
     -.1014      .0406    -2.4998      .0128     -.1812     -.0217

Indirect effect(s) of X on Y:
            Effect     BootSE   BootLLCI   BootULCI
TOTAL       -.1250      .0322     -.1894     -.0624
CPE_Tota    -.0397      .0180     -.0761     -.0051
SE_Total    -.0852      .0227     -.1328     -.0442

*********************** ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  10000

NOTE: Variables names longer than eight characters can produce incorrect
output.
      Shorter variable names are recommended.

------ END MATRIX -----
```

Appendix N: Monte Carlo Power Analysis Calculation

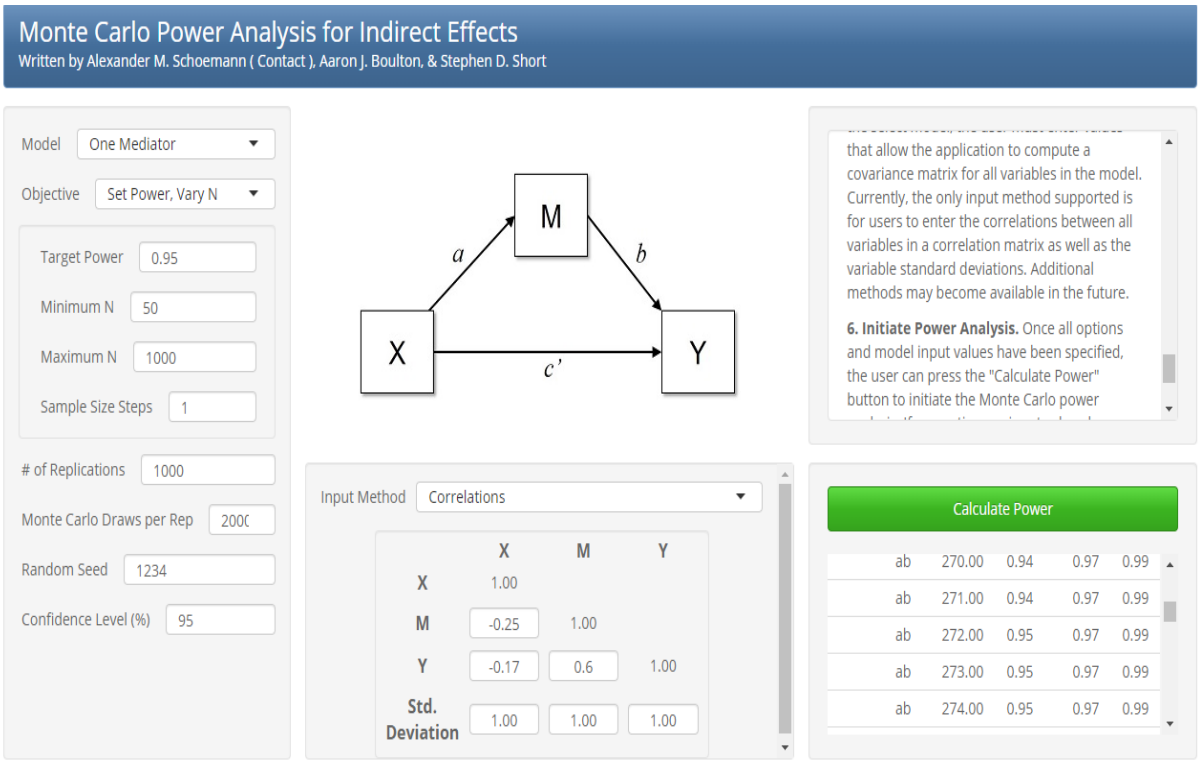


Figure 6.16. Monte Carlo Power Analysis calculation result

Action Plan of UAPZ 3023 (group-based)Final Year Project II for Jan & May trimester

Supervisee's Name: JASON LIM TAU YI, TAN WEI SEN, NICHOLAS ISAI CHIN YAO.

Supervisor's Name: DR. TAN CHEE SENG.

Task Description	Duration	Date/Time	Supervisee's Signature	Supervisor's Signature	Supervisor's Remarks	Next Appointment Date/Time
Methodology, Data Collection & Data Analysis	W1-W2	21-Jan-2020 (W2, Tues) 2pm				
Finding & Analysis Discuss Findings & Analysis with Supervisor Amending Findings & Analysis	W3-W6	6-Feb-2020, 3pm (W4, Thurs) 20-Feb-2020 2pm (W6, Thurs)				
Discussion & Conclusion Discuss Discussion & Conclusion with Supervisor Amending Discussion & Conclusion	W7-W9	5-Mac-2020. 2pm (W8, Thurs)				
Submission of first draft*	Monday of Week 10	submit the first draft to Turnitin.com to check similarity rate				
Amendment	W10					
Submission of final FYP (FYP I + FYP II)*	Monday of W11	submit hardcopy, CD, and relevant documents to supervisor				
Oral Presentation	W11-W12	Oral Presentation Schedule will be released and your supervisor will inform you via email.				

Notes:

1. **The listed duration is for reference only, supervisors can adjust the period according to the topics and content of the projects.**
2. ***Deadline for submission can not be changed, one mark will be deducted per day for late submission.**
3. **Supervisees are to take the active role to make appointments with their supervisors.**
4. **Both supervisors and supervisees should keep a copy of this rec 5. This record is to be submitted together with the submission of the FYP II.**

Universiti Tunku Abdul Rahman			
Form Title : Supervisor's Comments on Originality Report Generated by Turnitin for Submission of Final Year Project Report (for Undergraduate Programmes)			
Form Number: FM-IAD-005	Rev No.: 0	Effective Date: 01/10/2013	Page No.: 1of 1

FACULTY OF ARTS AND SOCIAL SCIENCE

Full Name(s) of Candidate(s)	JASON LIM TAU YI, TAN WEI SEN, NICHOLAS TSAI CHIN YAO
ID Number(s)	16AAB03691, 16AAB01752, 16AAB03425
Programme / Course	BACHELOR OF SOCIAL SCIENCE (HONS) PSYCHOLOGY
Title of Final Year Project	THE RELATIONSHIP BETWEEN FEAR OF FAILURE, CREATIVE PROCESS ENGAGEMENT, AND SELF-RATED CREATIVITY AMONG MALAYSIAN UNDERGRADUATES

Similarity	**Supervisor's Comments (Compulsory if parameters of originality exceeds the limits approved by UTAR)**
Overall similarity index: 5 % **Similarity by source** Internet Sources: 1 % Publications: 4 % Student Papers: 5 %	
Number of individual sources listed of more than 3% similarity: N/A	

Parameters of originality required and limits approved by UTAR are as follows:
- **(i) Overall similarity index is 20% and below, and**
- **(ii) Matching of individual sources listed must be less than 3% each, and**
- **(iii) Matching texts in continuous block must not exceed 8 words**

Note: Parameters (i) – (ii) shall exclude quotes, bibliography and text matches which are less than 8 words.

Note Supervisor/Candidate(s) is/are required to provide softcopy of full set of the originality report to Faculty/Institute

Based on the above results, I hereby declare that I am satisfied with the originality of the Final Year Project Report submitted by my student(s) as named above.

Chelsey

Signature of Supervisor

Name: Tan Chee Seng

Date: 17 Mar 2020

Signature of Co-Supervisor

Name: _____

Date: _____

FYP2_v1

ORIGINALITY REPORT

5%	1%	4%	5%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Chee-Seng Tan, Xiao-Shan Lau, Ling-Khai Lee. "The Mediating Role of Creative Process Engagement in the Relationship between Shyness and Self-Rated Creativity", The Journal of Creative Behavior, 2017 Publication	2%
2	Submitted to Argosy University Student Paper	1%
3	Submitted to Oklahoma State University Student Paper	1%
4	Chee-Seng Tan, Xiao-Shan Lau, Yian-Thin Kung, Renu A/L Kailsan. "Openness to Experience Enhances Creativity: The Mediating Role of Intrinsic Motivation and the Creative Process Engagement", The Journal of Creative Behavior, 2016 Publication	1%
5	Submitted to University of Northern Iowa Student Paper	1%
	Submitted to University Of Tasmania	

6 Student Paper

1%

Exclude quotes	On	Exclude matches	< 1%
Exclude bibliography	On		

FACULTY OF ARTS AND SOCIAL SCIENCE
UNIVERSITI TUNKU ABDUL RAHMAN

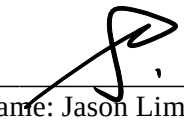
Date: 1st April 2020

SUBMISSION OF FINAL YEAR PROJECT

It is hereby certified that Jason Lim Tau Yi (ID No: 16AAB03691) has completed this final year project entitled "The Relationship between Fear of Failure, Creative Process Engagement, and Self-Rated Creativity among Malaysian Undergraduates" under the supervision of Dr. Tan Chee-Seng (Supervisor) from the Department of Psycholory and Counselling, Faculty of Arts and Social Science.

I understand that University will upload softcopy of my final year project in pdf format into UTAR Institutional Repository, which may be made accessible to UTAR community and public.

Yours truly,



Name: Jason Lim Tau Yi

FACULTY OF ARTS AND SOCIAL SCIENCE
UNIVERSITI TUNKU ABDUL RAHMAN

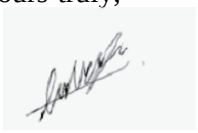
Date: 1st April 2020

SUBMISSION OF FINAL YEAR PROJECT

It is hereby certified that Tan Wei Sen (ID No: l7AAB0l752) has completed this final year project entitled "The Relationship between Fear of Failure, Creative Process Engagement, and Self-Rated Creativity among Malaysian Undergraduates" under the supervision of Dr. Tan Chee-Seng (Supervisor) from the Department of Psycholory and Counselling, Faculty of Arts and Social Science.

I understand that University will upload softcopy of my final year project in pdf format into UTAR Institutional Repository, which may be made accessible to UTAR community and public.

Yours truly,



_____

Name: Tan Wei Sen

FACULTY OF ARTS AND SOCIAL SCIENCE
UNIVERSITI TUNKU ABDUL RAHMAN

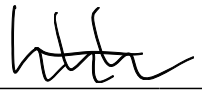
Date: 1st April 2020

SUBMISSION OF FINAL YEAR PROJECT

It is hereby certified that Nicholas Tsai Chin Yao (ID No: 16AAB03425) has completed this final year project entitled "The Relationship between Fear of Failure, Creative Process Engagement and Self-Rated Creativity among Malaysian Undergraduates" under the supervision of Dr. Tan Chee-Seng (Supervisor) from the Department of Psycholory and Counselling, Faculty of Arts and Social Science.

I understand that University will upload softcopy of my final year project in pdf format into UTAR Institutional Repository, which may be made accessible to UTAR community and public.

Yours truly,



Name: Nicholas Tsai Chin Yao

DEPARTMENT OF PSYCHOLOGY AND COUNSELLING
FACULTY OF ARTS AND SOCIAL SCIENCE
UNIVERSITI TUNKU ABDUL RAHMAN

UAPZ 3023 Final Year Project II

Research Project Evaluation Form

TURNITIN: ***'In assessing this work you are agreeing that it has been submitted to the University-recognised originality checking service which is Turnitin. The report generated by Turnitin is used as evidence to show that the students' final report contains the similarity level below 20%.'***

Project Title: THE RELATIONSHIP BETWEEN FEAR OF FAILURE, CREATIVE PROCESS ENGAGEMENT, AND SELF-RATED CREATIVITY AMONG MALAYSIAN UNDERGRADUATES	
Supervisor: DR. TAN CHEE-SENG	
Student's Name: 1. JASON LIM TAU YI 2. TAN WEI SEN 3. NICHOLAS TSAI CHIN YAO	Student's Id 1. 16AAB03691 2. 17AAB01752 3. 16AAB03425

INSTRUCTIONS:
Please score each descriptor based on the scale provided below:

1. For criteria **1, 2, 3,4, 5, 6**:
   0 = no attempt, 1 = very poor, 2 = poor, 3 = average, 4 = good, 5 = very good

2. For criteria **3,4**:
   0 = no attempt, 1 = very poor, 3 = poor, 5 = average, 7 = good, 10 = very good

3. For criteria **7**:
   Please retrieve the mark from "**Oral Presentation Evaluation Form**".

1. ABSTRACT (5%)	**Score**
1. States clearly the research objectives. (5%)	
2. Describe briefly and clearly the approach/methodology of the study. (5%)	
3. Highlights the outcomes of the study. (5%)	
4. Highlights the significance of the study. (5%)	
5. Three relevant keywords mentioned. (5%)	
Sum	
Subtotal (*Sum* /5)	**/ 5%**
Remark:	
2. METHODOLOGY (20%)	
1. Appropriate research design/framework (5%)	
2. Appropriate sampling techniques (5%) - Sample size is justified. - Sampling method correctly mentioned - Location of how the subjects are selected	
3. Clear explanation of procedure (5%) - How is consent obtained - Description of how data was collected	
4. Explanation on the instruments/questionnaires used (5%) - Description of instrument measures, scoring system, meaning of scores, reliability and validity information.	
Subtotal	**/ 20%**
Remark:	
3. RESULTS (20%)	
1. Analyses used are appropriate for each hypothesis. (10%)	
2. Interpretations and explanations of the statistical analyses are accurate. (10%)	
Subtotal	**/ 20%**
Remark:	

4. DISCUSSION & CONCLUSION (25%)			
1. Constructive discussion of findings. - Explanation and critical analysis. Results were critically analyzed with similar and/or dissimilar results. (10%)			
2. Implication of the study. (5%)			
3. Limitations mentioned relevant and constructive to the study. (5%)			
4. Recommendations for future research. (5%)			
Subtotal			**/ 25%**
Remark:			
5. LANGUAGE & ORGANIZATION (5%)			
1. Comprehensiveness: Content Organization + Language			
Subtotal			**/ 5%**
Remark:			
6. APA STYLE AND REFERENCING (5%)			
1. APA format is followed			
Subtotal			**/ 5%**
Remark:			
7. *ORAL PRESENTATION (20%)	**Score**		
	Student 1	**Student 2**	**Student 3**
Subtotal			
Remark:			
PENALTY: **Maximum 10 marks for LATE SUBMISSION, MISSING FORM or POOR ATTENDANCE for consultation with supervisor**			
	Student 1	**Student 2**	**Student 3**
****FINAL MARK/TOTAL**			

*****Overall Comments:**

Signature: _____ Date: _____

Notes:

1. **Subtotal**: The sum of scores for each assessment criteria
2. **FINAL MARK/TOTAL**: The summation of all subtotal score
3. Plagiarism is UNACCEPTABLE. Parameters of originality required and limits approved by UTAR are as follows:
   (i) **Overall similarity index is 20% and below**, and
   (ii) Matching of individual sources listed must be less than 3% each, and
   (iii) Matching texts in continuous block must not exceed 8 words
   Note: Parameters (i) – (ii) shall exclude quotes, references and text matches which are less than 8 words. Any works violate the above originality requirements will NOT be accepted. Students have to redo the report and meet the requirements in **SEVEN(7)** days.

*The marks of "Oral Presentation" are to be retrieved from **"Oral Presentation Evaluation Form".**

**It's compulsory for the supervisor/reviewer to give the overall comments for the research projects with A- and above or F grading.