Test Anxiety, Self-esteem, and Procrastination among Lebanese University Students

Mira El Masri

Lebanese American University

Abstract

The purpose of study is to examine the correlations between procrastination, test anxiety, and self-esteem. In this aim, 117 university students in Lebanon, aged 18-35 completed a questionnaire that consisted of Lay's Procrastination Scale, Sarason's Test Anxiety Scale, and Rosenberg's Self-Esteem Scale. Gender and employment status differences were examined, along with the three correlations. The data revealed that there is a significant difference in test anxiety between genders. The results also revealed there was a significant difference in self-esteem between idle and working students. The findings also report that participants who report high levels of procrastination also reported intense test anxiety but higher self-esteem. Therefore, these results suggest a moderate positive correlation between procrastination and test anxiety; a strong positive correlation between procrastination and self-esteem; and a strong positive correlation between test anxiety and self-esteem.

Keywords: procrastination, self- esteem, test anxiety, university students

Test Anxiety, Self-esteem, and Procrastination among Lebanese University Students

Introduction

University students struggle with motivation, fear of failure, fear of judgment, stress and other tiring psychological issues like negative self-worth (i.e. low self-esteem). Moreover, students struggle with test anxiety, thus resort to avoidance behavior such as procrastination which can lead to lower self-esteem as a result of poor academic outcomes (Custer, 2018). Procrastination is defined as intentional hindrance of a required task despite the negative consequences (Chen, Shi, & Wang, 2016). These variables have an interactive relationship, because self-esteem can also be a predictive factor in test anxiety and procrastination, thus creating a tiresome cycle. These cognitive-behavioral obstacles can deeply impair university students' academic performance in several ways such as lower GPA, prolonged study periods, and hasty study dropout (Krispenz, Gort, Shultke, & Dickhauser, 2019). Therefore, emphasizing awareness of these problems in higher educational institutions is fundamental to improve academic achievement and well-being of students by implementing interventions to reduce academic procrastination and test anxiety. This study aims to examine the type of correlation among three variables; test anxiety, procrastination, and self-esteem. This study also assesses differences between working and idle university students, which were not were not tested by previous literature. Moreover, little research has been conducted in Arab countries, especially as Lebanon.

Review of the Literature

Test Anxiety

When a student experiences abnormal levels of crippling fear and distress when taking an exam, he or she is most likely suffering from test anxiety. It has cognitive and emotional elements with a physiological manifestation (Daraku, 2017). On the long run, high test anxiety can lead to hypertension, infertility, and metabolic syndrome. Nevertheless, the average physiological symptoms include nausea, trembling, sweating, heart palpitations, muscle tension (Krispenz, et al., 2019; Daraku, 2017). On a cognitive level, students with test anxiety experience self-criticism and worry of failure (Daraku, 2017). Nonetheless, on an emotional level, students can encounter low self-esteem, agitation, helplessness, and insecurity (Krispenz, et al., 2019). There is a social component of test anxiety, which includes fear of judgment from teachers, parents or peers (Krispenz et al., 2019). Dysfunctional test anxiety has been quite prevalent among college students in the US with a rate of 10-35% (Hanfesa, Tilahun, Dessie, Shumet, & Salelew, 2020).

Generally, test anxiety has been associated with countless factors and predictors throughout many research studies. For instance, it has been positively associated with self-efficacy since students with test anxiety have low expectations of their exam outcome and performance (Krispenz, et al., 2019). Recent literature uncovered parental influences. For instance, parental pressure is positively correlated to test anxiety, while parental support is negatively correlated (Borekci & Uyangor, 2018; Raufelder, Hoferitcher, Ringeisen, Regner, & Jacke, 2015). Parental expectations also have a mediating effect on personal goals and low self-efficacy beliefs (Brandmo, Braten, & Olav, 2018). Other predictors of test anxiety include perfectionism, low emotional intelligence, distress, low achievement motivation, low income, low self-esteem and procrastination (Babu, Vanishree, Chandra, & Armitha, 2019; Ghosh & Roy, 2017; Stanskoska, Dimitrovski, Angelkosa, Ibraimi, & Uka, 2018; Onem, 2014; Sud & Kumar, 2006)

There are many contradictive literature findings regarding gender differences in test anxiety. Some studies suggest that gender alone does not influence test anxiety, but along with social, parental and cultural differences (Brandmo et al., 2018; Fiore, 2003; Raufelder et al., 2015; Ringeisen & Raufelder, 2015) . On the other hand, other studies claim that there are no gender or age differences to begin with (Ahmad, Hussain, & Khan, 2018; Onyeizugbo, 2010; Oladipo & Ogungbamila, 2013). However, more recent studies suggest that gender differences actually exist (Aydin, 2017; Cassady & Johnson, 2001; Chapell, et al., 2005; Danthony, Mascret, & Cury, 2020; Eman, Dogar, Khalid, & Haider, 2012; Lowe, 2019; Nyroos, et al., 2015; Rezazadeh & Tavakoli, 2009; Saracaloğlu, Dinoer, & Gerçeker, 2018). Meanwhile, there are studies that suggest that test anxiety decreases as age increases (Dawood, Al Ghadeer, Mitsu, Almutary, & Alenezi, 2016; DordiNejad, et al., 2011).

This type of anxiety is largely prevalent among students, especially undergraduate students. It is rational to believe that most people would think that graduate students struggle more with test anxiety. For example, graduate students stress about competition and presenting their thesis. However, research has shown that, unlike undergraduates, graduate students are primed with prior experience. Hence, they are equipped with better time management skills, self-confidence, better study skills, and preparation (Daraku, 2017).

Procrastination

Procrastination is a construct generally defined as delaying completion of tasks, and it is a very usual phenomena especially among university students (Yildirim & Demir, 2019). This variable can be categorized into behavioral and decisional procrastination (Firouzabad, Nejad, & Davoudi, 2018). Interestingly, students resort to procrastination as a defense mechanism of low

self-esteem, to protect their self-presentation (Chen et al., 2016). This study focuses on academic procrastination.

Students procrastinate due to many different causes. For example, perfectionism, neuroticism, and responsibility can predict procrastination (Hajloo, 2014). Procrastination is also a result of different cognitive and affective obstacles such as irrational thoughts, low self-esteem, lack of concentration, unrealistic expectations, fear of failure, anxiety, low self-efficacy, poor problem solving skills, and lowered self-respect (Hajloo, 2014). Other causes include poor time management skills, discomfort towards tasks, working habits, and the inability of orienting goals of success (Hajloo, 2014).

Different studies also highlighted other variables such as perfectionism, gender, smartphone use, defense mechanisms, and parenting style. Ghosh and Roy (2017) reported results signifying that socially prescribed, self-oriented, and other oriented perfectionisms positively correlated with academic procrastination. Using path analysis on a hypothetical model, Yang, Asbury, and Griffith (2018) revealed that problematic smartphone use is a mediator of the relationship between academic anxiety, procrastinatinon, and self-regulation. Additionally, defense mechanisms apparently influence the causes of procrastination. Therefore, defemse mechanisms can be vicarious factors. (Vlachopanour, Karagiannopoulou, & Tsiampalis, 2019). Lastly, positive parenting style has a substantial influence on academic procrastination which is mediated by self-esteem (Batool, 2020).

Like test anxiety, there were mixed findings about gender differences in procrastination (Mingming, 2018; Xie, Yang, & Chen, 2018). Some findings reported higher levels of procrastination among females (Ozer, Demir, & Ferrari, 2009) and other findings claimed the opposite (Balkis & Duru, 2017; Batool, Khursheed, & Jahangir, 2017; Saracaloğlu et al., 2018).

However, other studies reported no significant differences between two genders (Alzangana, 2017; Aydogan & Akbarov, 2018; Ferrari & Diaz-Morales, 2007; Mingming, 2018). Nonetheless, some studies used personality as a factor of procrastination and revealed gender differences (Ghosh & Roy, 2017; Dominiguez-Lara, Prada-Chaponan, & Moreta-Herrera, 2019; Vlachopanour et al., 2019).

Only few studies studied class differences in procrastination and reported contrasting results. Some studies indicate that older students procrastinate less than younger students due to higher experience (Artino Jr. & Stephens, 2009; Khan, Arif, Noor, & Muneer, 2014). In contrast, other findings claim that both graduate and undergraduate students differ only in type of procrastination, which are passive and active procrastination respectively (Cao, 2012). Interestingly, many studies indicated that older university students procrastinate more than younger students (Saracaloğlu et al., 2018).

Self-Esteem

Self-esteem is generally defined as self-evaluation, or self-worth, and it can be either positive or negative. Allegedly, this variable is one of the most researched constructs in the field of social sciences (Bleirdorn, et al., 2016). As established in abundant research literature, gender, age, cultural, and even biological differences are prevalent among self-esteem (Sprecher, Brooks, & Avogo, 2013; Bleirdorn, et al., 2016). This construct has been associated with countless of other variables in different domains such as psychopathology, social psychology, personality psychology and education. However, this study focuses on the impact of self-esteem on test anxiety and procrastination among university students, along with gender and employment status differences.

An abundance of research literature indicated that females tend to have lower self-esteem than males (Bleirdorn, et al., 2016; Sprecher et al., 2013; Diseth, Meland, & Breidablik, 2014; Zucherman, Li, & Hall, 2016; Bachman, O'Malley, Freedman-Doan, Trzesniewski, & Donnelian, 2011). This cross-cultural similarity is a result of the universality of certain sociocultural factors such as gender roles and stereotypes (Bleirdorn, et al., 2016). Moreover, men tend to have higher rates of self-esteem probably due to biological factors such as hormonal influences but more research is required (Bleirdorn, et al., 2016). However, the magnitude of these gender and age differences varies from one culture to another.

Both genders show a substantial decrease of self-esteem in adolescence and an increase from adolescence to middle adulthood then declining in old age because of emergence of health problems and socioeconomic changes (Bleirdorn, et al., 2016; Orth, Trezensiewski, & Robins, 2010; Zucherman, Li, & Hall, 2016). As for class differences, research focused on school grade differences rather than higher educational levels (Diseth et al., 2014).

Test Anxiety and Procrastination

Many studies have established that test anxiety and procrastination have interrelated consequences on the student's academic performance and well-being. Substantial amount of research has proved that there is a correlation between procrastination and test anxiety. Using a regression analysis to investigate the predictor roles of test anxiety and procrastination towards self-handicapping, the data analysis found a small but significant correlation *(r=.22)* (Yildirim & Demir, 2020). Custer (2018) conducted a correlational study on nursing students and matched Yildirim and Demir's (2020) findings with a correlation of *r=.23* and *p=0.002*. Additionally, academic procrastination is positively correlated with test anxiety because neglegient students experience higher levels of test anxiety (Azuri, 2010; Ariani & Susilo, 2018; Borekci &

Uyangor, 2018; Firouzabad et al., 2018). However, not all research studies yield a positive correlation. Some studies found that procrastination is not always directly proportional to test anxiety, but can be negatively correlated because of their intricate dynamic (Krispenz, et al., 2019). Furthermore, procrastinating students report lower levels of test anxiety at the beginning of a semester (Krispenz et al., 2019). However, at the end of the term right before the exams, test anxiety would increase due to lack of time management and preparation (Krispenz et al., 2019).

Procrastination and Self-Esteem

Procrastination can act as a protective mechanism of low self-esteem (Hajloo, 2014). To further elaborate, lower self-worth can predict poor performances and the other way around. Thus, procrastination and self-esteem have a complex relationship. Furthermore, some research findings designate that self-esteem and procrastination are negatively correlated (Batool et al., 2017; Chen et al., 2016; Duru & Balkis, 2017; Ghadampour, Veiskarami, & Vejdanparast, 2017; Hajloo, 2014; Moslemi, Ghomi, & Mohammadi, 2020; Saleem & Rafique, 2012). Other studies suggest that self-esteem mediates procrastination and other variables such as parenting (Batool, 2020), self-control (Uzon, LeBlanc, & Ferrari, 2020) and self-efficacy (Hajloo, 2014; Hanfesa et al., 2020; Yildirim & Demir, 2020; Zhang, et al., 2018). However, some studies contrasted the previous findings stating that there is a feeble positive correlation between self-esteem and procrastination of *r=0.25, P<0.001* (Babu et al., 2019).

Test Anxiety and Self-Esteem

The more negative your self worth is, the poorer the academic outcomes get. Students with low self-esteem can have very negative expectations and beliefs about their performances, thus they worry more about their exam performance . On one hand, research findings indicate

that test anxiety is negatively correlated to self-esteem (Alam, 2013; Bayani, 2016; Duraku &

Hoxha, 2018; Dan & Raz, 2015; Peleg, 2009; Yoon & Kwon, 2015; Sideeq, 2015; Yildirim &

Demir, 2020). On the other hand, certain findings showed a mediatory role of self-esteem in the

correlation of self-handicapping and test anxiety (Coudevylle, Gernigon, & Ginis, 2011).

The aim of this study is to examine the type of correlations between test anxiety,

procrastination and self-esteem, and test differences between working and non working

university students. It is hypothesized that (a) there are no significant differences between the

two genders in procrastination; (b) test anxiety is higher among females; (c) self-esteem is higher

among males; (d) Working students tend to have higher levels of procrastination which is

correlated to higher levels test anxiety and lower self-esteem; (e) procrastination is positively

correlated to test anxiety; (f) procrastination is negatively correlated to self-esteem; and (g) test

anxiety is negatively correlated to self-esteem.

Method

The purpose of this study is to examine the type of correlations between prpcrastination,

test anxiety, along with gender and employment status differences among university students. A

quantitative approach was considered appropiate for the study.

Participants

This sample consisted of Lebanese university students ranging between 18 and 35 years.

The total number of participants was 117 students.

Instruments

The instruments of this study include an online questionnaire that consisted of three Scales: Lay's Procrastination Scale (1986), Sarason's Test Anxiety Scale (1980), and Rosenberg's Self-Esteem Scale (1965).

The Procrastination Scale (LPS) (Lay, 1986) is a twenty-item questionnaire made up of a five-point scale for statements which people select to describe themselves: 1=Extremely Uncharacteristic, 2=Moderately Uncharacteristic, 3= Neutral, 4= Moderately Characteristic, and 5= Extremely Characteristic. The reliability of this scale was tested using SPSS and the Cronbach alpha was 0.82.

The Test Anxiety Scale (TAS) (Sarason, 1980) is a True or False, 36-item questionnaire. The scoring was simply executed by summing up the numbers of the "True" checks. The Cronbach alpha of this scale was also assessed by SPSS and it came to be 0.856.

Lastly, the Rosenberg Self-Esteem Scale (Rosenberg, 1965) is a ten-item survey with a four-point scale used to choose statements which people relate to the most: 1=Strongly Agree, 2=Agree, 3=Disagree, and 4=Strongly Disagree. Reliability analysis showed a Cronbach alpha of 0.891.

Procedure

The data collection of this online questionnaire was done via convenience sampling by sharing its link on different social media platforms. Participants were asked to read the informed consent form before beginning the questionnaire. They were informed that they can participate or withdraw from the study without any penalties. They were also told to skip any question they did not wish to answer. Participation was voluntary and anonymous. Participants obtained no compensations.

Data Analysis

Each participant received one total score representing their level of procrastination, test anxiety, and self-esteem. Lay's Procrastination Scale (LPS) was used to measure levels of procrastination for students. Answers were based on a five-point likert-type scale ranging from: 1= Extremely Uncharacteristic, 2= Moderately Uncharacteristic, 3= Neutral, 4= Moderately Characteristic, and 5= Extremely Characteristic. The total score for the LPS was calculated for each participant in the study using this formula; reverse score the items 3, 4, 6, 8, 11, 13, 14, 15, 18, 20 and then sum all the remaining ten items to get the final total score. Therefore, scores between 28 and 39 indicated an average level of procrastination. Scores of 40 and above indicated high levels of procrastination whereas scores of 27 and below indicated low levels of procrastination.

As for test anxiety, Sarason's Test Anxiety Scale (TAS) was utalized to assess intensity of test anxiety among the students. The scores were actually based on the sum of the times they checked "True". A sum of 12 or below indicates low test anxiety range, 12 to 20 is of medium range, and 20 or above indicates high test anxiety.

To assess the self-esteem in students, the Rosenberg Self-Esteem Scale (RSES) was implemented. on a four-point likert-type scale ranging from: 1= Strongly Disagree, 2= Disagree, 3= Agree, and 4= Strongly Agree. The total score for the RSES was calculated for each participant in the study using this formula; reverse score the items 2, 5, 6, 8, 9 and then sum all the remaining ten items to get the final total score. If the score ranged from 15 to 25 it indicates normal self-esteem while 15 and below indicates low self-esteem.

Particpants' scores were correlated using the Peasrson Bivariate correlational analysis. In addition, One Way ANOVA was used to analyze differences between working and non-working students, and both genders.

Ethical Considerations

The online survey consisted of an informed consent form (See Appendix D) disclosing participants of their rights. Participants were not asked to give information that would compromise their anonymity. All information and data collected remained confidential. The surveys were relinquished as soon as the data were stored onto the database for analysis. This study follows all ethical standards of the International Research Board. The study was approved by the International Research Board of the Lebanese American University (See Appendix D for IRB approval).

Results

Participant Characteristics

Participants' mean scores in procrastination, test anxiety and self-esteem were presented in Table 2. The mean score in Procrastination was 81.7350 with a minimum score of 54 and a maximum score of 103, indicating that most participants had high levels of procrastination. The mean score in Test Anxiety was 21.6752 with a minimum of 7 and a maximum of 30, indicating that most participants had high test anxiety. The mean score in Self-Esteem was 39.2650, with a minimum of 25 and a maximum of 54, indicating that most participants had high self-esteem.

Gender Differences

Table 1 presents a One Way ANOVA conducted to examine differences between males and females on procrastination, test Anxiety, and self-esteem. A significant difference was found in test anxiety [$F_{(2, 114)}$ = 5.806, p = .004]. However, there was not a significant gender gap in procrastination [$F_{(2, 114)}$ = 1.495, p = .229] and self-esteem [$F_{(2, 114)}$ = 1.858, p = .161].

Table 2 displays the comparison between males and females on their mean scores of procrastination, test anxiety, and self-esteem. Concerning the procrastination scores, there was a slight difference between the range for females (minimum score was 54, maximum was 103), and that of males (minimum score was 56, maximum score was 100) (see Table 2). There was no significant differences in procrastination between females (n = 68) and males (n = 49). Females' scores on procrastination had a mean (M = 80.5441, SD = 12.36079), which is slightly lower than that of males (M = 83.3878, SD = 10.77191). As for test anxiety scores, there was also a slight difference between the range for females (minimum score was 9, maximum was 31) and that of males (minimum score was 7, maximum score was 33) (see Table 2). There was no significant differences between in test anxiety between females (n = 68) and males (n = 49). Females' scores had a slightly higher mean (M = 22.8529, SD = 5.89020) than that of males (M = 20.0408, SD = 7.67561). In addition, for self-esteem scores, there was a slight difference between the range for females (minimum score was 25, maximum score was 54) and that of males (minimum score was 27, maximum score was 54) (see Table 2). In addition, there was no significant differences in self-esteem between females (n = 68) and males (n = 49). In self-esteem, males had a mean (M = 39.7959, SD = 6.46780) which was slightly higher than that of females (M = 38.8824, SD = 7.28837).

Employment Status differences

Table 3 presents a One Way ANOVA conducted to examine differences between idle and employed university students on procrastination, test Anxiety, and self-Esteem. There was a significant gap found in test anxiety [F (1, 115) =5.027, p = .027]. However, there was no significant differences in procrastination [F (1, 115) =1.675, p = .198] and self-esteem [F (1, 115) = .491, p = .485].

Table 4 displays the comparison between employed and unemployed university students on their mean scores of procrastination, test anxiety, and self-esteem. Concerning the procrastination scores, there was a negligible difference between the range for unemployed students (minimum score was 54, maximum was 103), and that of working students (minimum score was 56, maximum score was 100) (see Table 4). There were no significant differences in procrastination between employed (n = 22) and unemployed students (n = 94). Idle students' scores on procrastination had a mean (M = 82.3511, SD = 11.55697), which is somewhat higher than that of working students (M = 78.5455, SD = 12.35478). As for test anxiety scores, there was also an insignificant difference between the range for employed (minimum score was 7, maximum was 31) and that of unemployed students (minimum score was 8, maximum score was 33) (see Table 4). There were no substantial differences in test anxiety between working (n = 22) and unemployed students (n = 94). Idle students' scores had a slightly higher mean (M = 22.6277, SD = 6.58605) than that of working students (M = 18.1364, SD = 6.34932). In addition, for self-esteem scores, there a slight difference between the range for idle students (minimum score was 25, maximum score was 54) and that of males (minimum score was 27, maximum score was 46) (see Table 4). In addition, there were no significant differences in self-esteem between idle (n = 94) and working students (n = 22). In self-esteem, idle students had a mean (M =39.8723, SD = 7.03178) which was slightly higher than that of working students (M = 36.7727, SD = 6.23303).

Correlation between Procrastination and Test Anxiety

The correlation between procrastination and test anxiety is reported in Table 5. The correlation between procrastination and test anxiety was r = 0.341, $p < 0.01$, which shows a moderate and a positive correlation. This entails that the participants' procrastination and test anxiety scores are comparable. Therefore, participants who have high procrastination tend to have more intense test anxiety.

Correlation between Procrastination and Self-Esteem

The correlation between procrastination and self-esteem was reported in Table 6. The correlation between procrastination and self-esteem was r = 0.553, $p < 0.01$, which indicates a strong and positive correlation. This designates that the participants' procrastination and self-esteem scores are comparable. Hence, participants who have high procrastination tend to have higher self-esteem.

Correlation between Self-Esteem and Test Anxiety

The correlation between self-esteem and test anxiety was reported in Table 7. The correlation between test anxiety and self-esteem was r = 0.541, $p < 0.01$, which indicates a strong and positive correlation. This means that the participants' scores in self-esteem and test anxiety are comparable. Thus, participants who have higher self-esteem tend to have more intense test anxiety.

Discussion

In order to test the correlations between procrastination, test anxiety, and self-esteem more accurately, the results of the study focused on two aspects, gender and employment status

of the participants. The results showed that there were no significant gender differences except in test anxiety and that were no significant employment status differences except in self-esteem. Moreover, findings reported a moderate positive correlation between procrastination and test anxiety; a strong positive correlation between procrastination and self-esteem; and a strong positive correlation between test anxiety and self-esteem.

Gender differences

Compatible with the study's hypothesis, there were no significant gender differences found in procrastination. These findings are comparable with that of Aydogan and Akbarov (2018). In addition, significant gender differences were found in test anxiety, where female students scored higher scores. This finding is comparable to previous findings such as that of Saracaloğlu, Dinoer, and Gerçeker (2018). However, results of the study contradicted the hypothesis and previous literature when it came to self-esteem, reporting no significant differences between male and female students.

Employment status differences

The findings of the study partly refuted the hypothesis concerning working students, because idle university students actually scored higher in procrastination and test anxiety. On the other hand, working students scored lower self-esteem. Working students scored lower scores of self-esteem possibly due to facing more psychological stress because of alternating between work and academic workload.

Procrastination and Test Anxiety

The correlation between procrastination and test anxiety reported to be a moderate and positive correlation, which implies that students who procrastinate very often, suffer from intense

test anxiety. Therefore, this result confirms the hypothesis of the study. In addition, it is comparable with other findings such as that of Krispenz et al., (2019). According to the cognitive avoidance theory of worry, cognitive avoidance is considered a coping mechanism for worry or fear (Custer, 2018). Therefore, as students feel the increased level of physical and mental discomfort of test anxiety, they tend to withdraw or delay studying for an exam as a counter-productive coping mechanism, entering an exhaustive loop.

Procrastination and Self-Esteem

The correlation between procrastination and self-esteem is reported to be a strong and positive correlation, which implies that people who procrastinate more have higher self-esteem. This result is not comparable to most studies because they suggest that procrastination and self-esteem are negatively correlated such as that of Batool, et al., (2017). These previous findings explain that avid procrastinators have low self-estem (Hajloo, 2014).

Self-Esteem and Test Anxiety

The correlation between test anxiety and self-esteem is reported to be a strong and positive correlation, which implies that students with higher self-esteem have higher test anxiety. This is also a contradicting finding that opposes most previous literature given that students with lower self-esteem tend to have higher test anxiety such as the studies done by Duru and Balkis (2017), and Azuri, (2010). Students with lower self-esteem tend to have poorer academic outcomees, hence they would be more anxious because of their low self-efficacy (Onyeizugbo, 2010).

Limitations

The study faced few limitations. First, the contraversial results of the study could be because of multiple biases participants had when they reached the self-esteem scale of the survey, such as the social desirability bias and self-reporting bias. Second, the sample size is not representative of all university students in Lebanon. Third, the correlations might have been mediated by extraneous variables.

Reccomendations for Future Research and Practice

Future research should consider the limitations of this study and examine the extraneous variables mediating the correlations between procrastination, test anxiety, and self-esteem in order to reach more accurate results. Furthermore, future research should also examine cultural differences among procrastination and test anxiety. In addition, future research should include a bigger and more representative sample.

To conclude, interventions must be applied to reduce test anxiety and procrastination. For example, an effective type of intervention tested on students is an inquiry-based stress reduction (IBSR) (Krispenz et al., 2019). This is a type of intervention that could be used in academic settings to reduce the negative mental and academic impact students go through because of high test anxiety, procrastination and low self-esteem.

References

Ahmad, N., Hussain, S., & Khan, F. N. (2018). TEST ANXIETY: GENDER AND ACADEMIC

ACHIEVEMENTS OF UNIVERSITY STUDENTS. *J Postgrad Med Inst*, 295-300.

Alam, M. (2013). A study of Test Anxiety, Self-Esteem and Academic Performance Among

Adolescents. *Journal of Organizational Behavior*, 33-43.

Alzangana, K. (2017). ACADEMIC PROCRASTINATION AMONG INTERNATIONAL

GRADUATE STUDENTS: THE ROLE OF PERSONALITY TRAITS, THE BIG-FIVE

PERSONALITY TRAIT TAXONOMY. *Malegaon*, 1-9.

Ariani, D. W., & Susilo, Y. S. (2018). Why Do It Later? Goal Orientation, Self-efficacy, Test

Anxiety, on Procrastination. *ECPS*, 45-74.

Artino Jr., A. R., & Stephens, J. M. (2009). Academic motivation and self-regulation: A

comparative analysis of undergraduate and graduate students learning online. *Internet

and Higher Education*, 146-151.

Aydin, U. (2017). Test Anxiety: Do Gender and School-Level Matter? *European Journal of

Educational Research*, 187-197.

Aydogan, H., & Akbarov, A. (2018). A CASE STUDY ON ACADEMIC

PROCRASTINATION IN EFL SETTINGS IN TURKEY. *Acta Didactica Napocensia*,

79-88.

Azuri, J. A. (2010). CORRELATES OF COURSE ANXIETY AND ACADEMIC

PROCRASTINATION IN HIGHER EDUCATION. *Global Journal of Educational

Research*, 55-65.

Babu, P., Vanishree, M. K., Chandra, K. M., & Armitha, N. (2019). Relationship between Academic Procrastination and Self-esteem among Dental Student in Bengalru City. *Journal of Indian Association of Public Health Dentistry*, 146-151.

Bachman, J. G., O'Malley, P. M., Freedman-Doan, P., Trzesniewski, K. H., & Donnelian, M. B. (2011). Adolescent Self-esteem: Differences by Race/Ethnicity, Gender, and Age. *Self Identity*, 445-473.

Balkis, M., & Duru, E. (2017). Gender Differences in the Relationship between Academic Procrastination, Satifaction with Academic Life and Academic Performance. *Electronic Journal of Research in Educational Pscyhology*, 105-125.

Batool, S. S. (2019). Academic achievement: Interplay of positive parenting, self-esteem, and academic procrastination. *Wiley*, 174-187.

Batool, S. S., Khursheed, S., & Jahangir, H. (2017). Academic Procrastination as a Product of Low Self-Esteem: A Mediational Role Of Academic Self-Efficacy. *Pakistan Journal of Psychological Research*, 195-211.

Bayani, A. A. (2016). The Effect of Self-Esteem, Self-Efficacy and Family Social Support on Test Anxiety. *Int J School Health*, 1-5.

Bleirdorn, W., Arslan, R. C., Denissen, J. J., Rentfrow, P. J., Gebauer, J. E., Potter, J., & Gosling, S. D. (2016). Gender and Age Differences in Self-esteem: A Cross-Cultural Window. *Journal of Personality and Social Psychology*, 396-410.

Borekci, C., & Uyangor, N. (2018). Family Attitude, Academic Procrastination and Test Anxiety
　　　　as Predictors of Academic Achievement. *International Journal of Educational
　　　　Methodology* , 219-226.

Brandmo, C., Braten, I., & Olav, S. (2018). Social and Personal Predictors of Test Anxiety.
　　　　Social Psychology of Education, 1-37.

Cao, L. (2012). Differences in procrastination and motivation between undergraduate and
　　　　graduate students. *Journal of the Scholarship of Teaching and Learning* , 39-64.

Cassady, J. C., & Johnson, R. E. (2001). Cognitive Test Anxiety and Academic Performance.
　　　　Contemporary Educational Psychology, 270-295.

Chapell, M. S., Blanding, Z. B., Silverstein, M., Takahashi, M., Newman, B., Gubi, A., &
　　　　McCan, N. (2005). Test Anxiety and Academic Performance in Undergraduate and
　　　　Graduate Students. *Journal of Educational Psychology*, 268-274.

Chen, B.-B., Shi, Z., & Wang, Y. (2016). Do Peers matter? Resistance to Peer Influence as a
　　　　Mediator between Self-esteem and Procrastination among Undergraduates. *frontiers in
　　　　Psychology*, 1-6.

Coudevylle, G., Gernigon, C., & Ginis, K. M. (2011). Self-esteem, self-confidence, anxiety and
　　　　claimed self-handicapping: A mediational analysis. *Psychology of Sport and Exercise*,
　　　　670-675.

Custer, N. (2018). Test Anxiety and Acedmic Procrastination Among Prelicensure Nursing
　　　　Students. *Nursing Education Perspectives*, 162-163.

Dan, O., & Raz, S. (2015). The Relationships Among ADHD, SelfEsteem, and Test Anxiety in

    Young Adults. *Journal of Attention Disorder*, 231-239.

Danthony, S., Mascret, N., & Cury, F. (2020). Test Anxiety in Physical education: The

    predictive role of gender, age, and implicit theories of athletic ability. *Europian Physical*

    Education Review, 112-118.

Daraku, Z. H. (2017). Factors influencing Test Anxiety among University Students. *The*

    Europian Journal of Social & Behavioral Sciences, 2325-2334.

Dawood, E., Al Ghadeer, H., Mitsu, R., Almutary, N., & Alenezi, B. (2016). Relationship

    between Test Anxiety and Academic Achievement among Undergraduate Nursing

    Students. *Journal of Education and Practice*, 57-65.

Diseth, A., Meland, E., & Breidablik, H. J. (2014). Self-beliefs among students: Grade level and

    gender differecnes in self-esteem, self-efficacy and implicit theories of intelligence.

    Learning and Individual Differences, 1-8.

DordiNejad, F. G., Hakim, H., Ashouri, M., Deghani, M., Zeinaleh, Z., Daghighi, M. S., &

    Bahrami, N. (2011). On the relationship between test anxiety and academic performance .

    Procedia Social and Behavioural Sciences, 3774-3778.

Duraku, Z. H., & Hoxha, L. (2018). Self-esteem, study skills, self-concept, social support,

    psychological distress, and coping mechanism effects on test anxiety and academic

    performance. *Health Psychology Open*, 1-9.

Duru, E., & Balkis, M. (2017). Procrastination, Self-Esteem, Academic Performance, and Well-

    Being: A Moderated Mediation Model. *International Journal of Educational Psychology*,

Dominguez-Lara, S., Prada-Chapoñan, R., & Moreta-Herrera, R. (2019). Gender differences in

    the influence of personality on academic procrastination in Peruvian college

    students. *Acta Colombiana de Psicología*, 91-119.

Eman, S., Dogar, I. A., Khalid, M., & Haider, N. (2012). "GENDER DIFFERENCES IN TEST

    ANXIETY AND EXAMINATION STRES TION STRES TION STRESS.". *JPPS*, 90-

    85.

Ferrari, J. R., & Diaz-Morales, J. F. (2007). Procrastination: Different time orientations reflect

    different motives. *Journal of Research in Psychology*, 707-714.

Fiore, A. M. (2003). Gender Differences in Test Anxiety.

Firouzabad, Y. H., Nejad, S. B., & Davoudi, I. (2018). Prediction of Subscale Test Anxiety

    considering Behavioral Procrastination, Desicional Procrastination, and Cognitive

    Avoidance in University Students. *Iranian Journal of Psychiatry and Clinical*

    Psychology, 424-437.

Ghadampour, E., Veiskarami, H., & Vejdanparast, H. (2017). The Effects of Teaching

    Motivation and SelfEsteem Strategies on Reducing Academic Procrastination: Evidence

    from Universities in Iran. *International Journal of Economic Perspectives*, 489-498.

Ghosh, R., & Roy, S. (2017). Relating multi-dimensional perfectionism and academic

    procrastination among Indian university students Is there any gender divide? *Gender in*

    Management: An International Journal, 518-534.

Hajloo, N. (2014). Relationships Between Self-Efficacy, Self-Esteem and Procrastination in. *Iran J Psychiatry Behav Sci*, 42-49.

Hanfesa, S., Tilahun, T., Dessie, N., Shumet, S., & Salelew, E. (2020). Test Anxiety and Associated Factors Among First-Year Health Students of University of Gondar; Northwest Ethiopia: A Cross-Sectional Study. *Advances in Medical Education and Practice*, 817-824.

Khan, M. J., Arif, H., Noor, S. S., & Muneer, S. (2014). Academic Procrastination among Male and Female University and College Students. *FWU Journal of Social Sciences*, 65-70.

Krispenz, A., Gort, C., Shultke, L., & Dickhauser, O. (2019). How to Reduce Test Anxiety and Academic Procrastination Through Inquiry of Cognitive Appraisals: A Pilot Study Investigating the Role of Academic Self-Efficacy. *frontiers in Psychology*, 1-14.

Lay, C. (1986). At last, my research article on procrastination. *Journal of Research in*, 474-495.

Lowe, P. A. (2019). Exploring Cross-Cultural and Gender Differences in Test Anxiety Among U.S and Canadian College Students. *Journal of Psychoeducational Assessment*, 112-118.

Mingming, Z. (2018). Gender Differences in Procrastination. *Current Psychology*, 1-10.

Moslemi, Z., Ghomi, M., & Mohammadi, D. (2020). The relationship between personality dimensions (neuroticism, conscientiousness) and Self-esteem with Academic procrastination among students at Qom University of Medical Sciences. *DEVELOPMENT STRATEGIES IN MEDICAL EDUCATION*, 5-16.

Mwamwenda, T. S. (1993). Gender differences in test anxiety among South African university students. *Perceptual and motor skills*, 554-554.

Nyroos, M., Korhonen, J., Peng, A., Linnanmaki, K., Svens-Liavag, C., Bagger, A., & Sjoberg, G. (2015). Cultural and Gender Differences in Experiences and Expression of Test Anxiety Among Chinese, Finnish and Swedish Grade 3 Pupils. *International Journal of School and Educational Psychology*, 37-48.

Oladipo, S. E., & Ogungbamila, A. (2013). Demographic Predictors of Test Anxiety among Undergraduates. *International Journal of Learning and Development*, 62-66.

Onem, E. (2014). A Study of Income and Test Anxiety among Turkish University Students. *Journal of Language and Literature Education*, 14-23.

Onyeizugbo, E. U. (2010). Self-Efficacy, Gender and Trait Anxiety as Moderators of Test Anxiety. *Electronic Journal of Research and Educational Psychology*, 299-312.

Orth, U., Trezensiewski, K. H., & Robins, R. W. (2010). Self-esteem Development From Young Adulthood to Old Age: A Cohort-Sequential Logtitudinal Study. *Journal of Personality and Social Psychology*, 1-54.

Ozer, B. U., Demir, A., & Ferrari, J. R. (2009). Exploring AcademiProcrastination Among Turkish Students: Possible Gender Differecnes in Prevalence and Reason. *Journal of Social Psychology*, 241-257.

Peleg, O. (2009). TEST ANXIETY, ACADEMIC ACHIEVEMENT, AND SELF-ESTEEM AMONG ADOLESCENTS WITH AND WITHOUT LEARNING DISABILITIES. *Learning Disability Quarterly*, 11-20.

Raufelder, D., Hoferitcher, F., Ringeisen, T., Regner, N., & Jacke, C. (2015). The Perceived Role of Parental Support and Pressure in the interplay of Test Anxiety and School

Engagement Among Adolescents: Evidence for Gender-Specific Relationd. *Child anf Family Studies*, 3742-3756.

Rezazadeh, M., & Tavakoli, M. (2009). Investigating the Relationship among Test Anxiety, Gender, Academic Achievement and Years of Study: A Case of Iranian EFL University Students. *English Language Teaching*, 68-74.

Ringeisen, T., & Raufelder, D. (2015). The interplay of parental support, parental pressure and test anxiety - Gender differences in adolescents. *Journal of Adolescence*, 67-79.

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

Saleem, M., & Rafique, R. (2012). Procrastination and Self-Esteem aong University Students. *Pakistan Journal of Social and clinical Psychology*, 50-53.

Saracaloğlu, A. S., Dinoer, B., & Gerçeker, C. S. (2018). The Relationship between Music Teacher Candidates' Academic and General Procrastination Tendencies and Test Anxiety. *Journal of Education and Training Studies*, 174-183.

Sarason, I. G. (1980). *Test anxiety: Theory, research, and applications*. Hillsdale, NJ: Lawrence Erlbaum Assoc Inc.

Sideeq, A. (2015). Test Anxiety, Self-Esteem, Gender Difference, and Academic Achievement: The Case of the Students of Medical Sciences at Sudanese Universities: (A Mixed Methods Approach). *Journal of Arts and Social Sciences*, 39-59.

Sprecher, S., Brookes, J. E., & Avogo, W. (2013). Self-Esteem Among Young Adults: Differences and Similarities Based on Gender, Race and Cohort (1990-2012). *Sex Roles*, 264-275.

Stanskoska, G., Dimitrovski, D., Angelkosa, S., Ibraimi, Z., & Uka, V. (2018). Emotional Intelligence, Test Anxiety and Academic Stress among University Students. *Education in Modern Society*, 157-164.

Sud, A., & Kumar, S. (2006). Dysfunctional Career Thoughts Achievment Motivation, and Test Anxiety among University Students. *Pakistan Journal of Psychological Research*, 41-51.

Uzon, B., LeBlanc, S., & Ferrari, J. R. (2020). Relationship between Academic Procrastinaton and Self-Control: The Mediational Role of Self-Esteem. *College Student Journal*, 309-316.

Vlachopanour, P., Karagiannopoulou, E., & Tsiampalis, T. (2019). Association among defense mechanisms, causes of procrastination and well-being: Gender Differences. *Europian Journal of Public Health*, 600.

Xie, Y., Yang, J., & Chen, F. (2018). PROCRASTINATION AND MULTIDIMENSIONAL PERFECTIONISM: A META-ANALYSIS OF MAIN, MEDIATING, AND MODERATING EFFECTS. *Social and Behavior and Personality*, 395-408.

Yang, Z., Asbury, K., & Griffith, M. D. (2018). An Exploration of Problematic Smartphone Use among Chinese University Students: Associations with Academic Anxiety, Academic Procrastination with Academic Anxiety, Academic Procrastination, Self-regulation and Subjective Wellbeing. *International Journal of Mental Health and Addiction*, 596-614.

Yildirim, F. B., & Demir, A. (2019). Self-Handicapping Among University Students: The Role

of Procrastination, Test Anxiety, Self-Esteem, and Self Compassion. *Education and

School Psychology*, 825-843.

Yildirim, F. B., & Demir, A. (2020). Self-Hnadicapping Among University Studets: The Role of

Procrastination, Test Anxiety, Self-Esteem, and Self-Compassion. *Psychological Reports*,

825-843.

Yoon, S.-U., & Kwon, Y.-S. (2015). Relationship between test anxiety and self-esteem in partial

health related department convergence College students. *Journal of the Korea

Convergence Society*, 91-98.

Zucherman, M., Li, C., & Hall, J. A. (2016). When men and women differ in self-esteem and

when they don't: a meta-analysis. *Journal of Research in Personality*, 1-8.

Table 1

One Way ANOVA between Genders

		Sum of Squares	df	Mean Square	F	Sig.
Procrastination	Between Groups	409.917	2	204.958	1.495	.229
	Within Groups	15626.869	114	137.078		
	Total	16036.786	116			
Test Anxiety	Between Groups	497.099	2	248.550	5.806	.004
	Within Groups	4880.559	114	42.812		
	Total	5377.658	116			
Self-Esteem	Between Groups	176.455	2	88.227	1.858	.161
	Within Groups	5414.332	114	47.494		
	Total	5590.786	116			

Table 2

Comparison of Means of Procrastination, Test Anxiety, and Self-Esteem between Genders

Gender		Procrastination	Test Anxiety	Self-Esteem
Female	Mean	80.5441	22.8529	38.8824
	N	68	68	68
	Std. Deviation	12.36079	5.89020	7.28837
	Minimum	54.00	9.00	25.00
	Maximum	103.00	31.00	54.00
Male	Mean	83.3878	20.0408	39.7959
	N	49	49	49
	Std. Deviation	10.77191	7.67561	6.46780
	Minimum	56.00	7.00	27.00
	Maximum	100.00	33.00	54.00
Total	Mean	81.7350	21.6752	39.2650
	N	117	117	117
	Std. Deviation	11.75790	6.80875	6.94237
	Minimum	54.00	7.00	25.00
	Maximum	103.00	33.00	54.00

Table 4

Comparison of Means of Procrastination, Test Anxiety, and Self-Esteem between Employment Statuses

Work		Procrastination	Test Anxiety	Self Esteem
Idle Students	Mean	82.3511	22.6277	39.8723
	N	94	94	94
	Std. Deviation	11.55697	6.58605	7.03178
	Minimum	54.00	8.00	25.00
	Maximum	103.00	33.00	54.00
Working Students	Mean	78.5455	18.1364	36.7727
	N	22	22	22
	Std. Deviation	12.35478	6.34932	6.23303
	Minimum	56.00	7.00	27.00
	Maximum	100.00	31.00	46.00
Total	Mean	81.7350	21.6752	39.2650
	N	117	117	117
	Std. Deviation	11.75790	6.80875	6.94237
	Minimum	54.00	7.00	25.00
	Maximum	103.00	33.00	54.00

Table 5

Correlation between Procrastination and Test Anxiety

		Procrastination	Test Anxiety
Procrastination	Pearson Correlation	1	.341**
	Sig. (2-tailed)		.000
	N	117	117
Test Anxiety	Pearson Correlation	.341**	1
	Sig. (2-tailed)	.000	
	N	117	117

Note n = 117. **. Correlation is significant at the 0.01 level (2-tailed).

Table 6

Correlation between Procrastination and Self-Esteem

		Procrastination	Self-Esteem
Procrastination	Pearson Correlation	1	.533**
	Sig. (2-tailed)		.000
	N	117	117
Self-Esteem	Pearson Correlation	.533**	1
	Sig. (2-tailed)	.000	
	N	117	117

Note n = 117 **. Correlation is significant at the 0.01 level (2-tailed).

Table 7

Correlation Between Self-Esteem and Test Anxiety

		Self-Esteem	Test Anxiety
Self-Esteem	Pearson Correlation	1	.541**
	Sig. (2-tailed)		.000
	N	117	117
Test Anxiety	Pearson Correlation	.541**	1
	Sig. (2-tailed)	.000	
	N	117	117

Note n = 117 **. Correlation is significant at the 0.01 level (2-tailed).

Appendix A

Procrastination Scale (Lay, 1986) - For student populations

Instructions:

People may use the following statements to describe themselves. For each statement, decide whether the statement is uncharacteristic or characteristic of you using the following 5 point scale. Note that the 3 on the scale is Neutral – the statement is neither characteristic nor uncharacteristic of you. In the box to the right of each statement, fill in the number on the 5 point scale that best describes you.

Extremely Uncharacteristic	Moderately Uncharacteristic	Neutral	Moderately Characteristic	Extremely Characteristic
1	2	3	4	5

1. I often find myself performing tasks that I had intended to do days before. ☐
2.* I do not do assignments until just before they are to be handed in. ☐
3.* When I am finished with a library book, I return it right away regardless of the date it is due. ☐
4. When it is time to get up in the morning, I most often get right out of bed. ☐
5. A letter may sit for days after I write it before mailing it. ☐
6. I generally return phone calls promptly. ☐
7. Even with jobs that require little else except sitting down and doing them, I find they seldom get done for days. ☐
8. I usually make decisions as soon as possible. ☐
9. I generally delay before starting on work I have to do. ☐
10.* I usually have to rush to complete a task on time. ☐
11. When preparing to go out, I am seldom caught having to do something at the last minute. ☐
12. In preparing for some deadline, I often waste time by doing other things. ☐
13.* I prefer to leave early for an appointment. ☐
14.* I usually start an assignment shortly after it is assigned. ☐
15. I often have a task finished sooner than necessary. ☐
16. I always seem to end up shopping for birthday or Christmas gifts at the last minute. ☐
17. I usually buy even an essential item at the last minute. ☐
18. I usually accomplish all the things I plan to do in a day. ☐
19. I am continually saying "I'll do it tomorrow". ☐
20. I usually take care of all the tasks I have to do before I settle down and relax for the evening. ☐

Appendix B

Test Anxiety Scale

How much test anxiety do you have? Answer the following questions with a check under the appropriate column. Count the number checks in the True and False columns and total them in the last row.

True	False	
		While taking an important exam, I find myself thinking of how much brighter the other students are than I am.
		If I were to take an intelligence test, I would worry a great deal before taking it.
		If I knew I was going to take an intelligence test, I would feel confident and relaxed.
		While taking an important exam, I perspire a great deal.
		During class examinations, I find myself thinking of things unrelated to the actual course material.
		I get to feeling very panicky when I have to take a surprise exam.
		During a test, I find myself thinking of the consequences of failing.
		After important tests, I am frequently so tense my stomach gets upset.
		I freeze up on things like intelligence tests and final exams.
		Getting good grades on one test doesn't seem to increase my confidence on the second.
		I sometimes feel my heart beating very fast during important exams.
		After taking a test, I always feel I could have done better than I actually did.
		I usually get depressed after taking a test.
		I have an uneasy, upset feeling before taking a final examination.
		When taking a test, my emotional feelings do not interfere with my performance.
		During a course examination, I frequently get so nervous that I forget facts I really know. I seem to defeat myself while working on important tests.
		The harder I work at taking a test or studying for one, the more confused I get.
		As soon as an exam is over, I try to stop worrying about it, but I just can't.
		During exams, I sometimes wonder if I'll ever get through school.
		I would rather write a paper than take an examination for my grade in a course.

True	False	
		I wish examinations did not bother me so much.
		I think I could do much better on tests if I could take them alone and not feel pressured by time limits.
		Thinking about the grade I may get in a course interferes with my studying and performance on tests.
		If examinations could be done away with, I think I would actually learn more.
		On exams I take the attitude, "If I don't know it now, there's no point in worrying about it."
		I really don't see why some people get so upset about tests.
		Thoughts of doing poorly interfere with my performance on tests.
		I don't study any harder for final exams than for the rest of my coursework.
		Even when I'm well prepared for a test, I feel very anxious about it.
		I don't enjoy eating before an important test.
		Before an important examination, I find my hands or arms trembling.
		I seldom feel the need for "cramming" before an exam.
		The college should recognize that some students are more nervous than others about tests and that this affects their performance.
		It seems to me that examination periods should not be made such intense situations.
		I started feeling very uneasy just before getting a test paper back.
		I dread courses where the instructor has the habit of giving "pop" quizzes.
		Total of True's and False's

Test Anxiety Scale adapted from Sarason, I.G. (1980), *Test Anxiety: Theory, Research, and Applications.*

Appendix C

ROSENBERG SELF-ESTEEM SCALE

Reference:

Rosenberg, M. (1965). Society and the adolescent self-image. Princeton, NJ: Princeton University Press.

Description of Measure:

A 10-item scale that measures global self-worth by measuring both positive and negative feelings about the self. The scale is believed to be uni-dimensional. All items are answered using a 4-point Likert scale format ranging from strongly agree to strongly disagree.

Scale:

Instructions

Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.

1. On the whole, I am satisfied with myself.

Strongly Agree   Agree   Disagree   Strongly Disagree

2. At times I think I am no good at all.

Strongly Agree   Agree   Disagree   Strongly Disagree

3. I feel that I have a number of good qualities.

Strongly Agree   Agree   Disagree   Strongly Disagree

4. I am able to do things as well as most other people.

Strongly Agree   Agree   Disagree   Strongly Disagree

5. I feel I do not have much to be proud of.

Strongly Agree   Agree   Disagree   Strongly Disagree

6. I certainly feel useless at times.

Self Report Measures for Love and Compassion Research: *Self-Esteem*   Fetzer Institute

Strongly Agree   Agree   Disagree   Strongly Disagree

7. I feel that I'm a person of worth, at least on an equal plane with others.

Strongly Agree   Agree   Disagree   Strongly Disagree

8. I wish I could have more respect for myself.

Strongly Agree   Agree   Disagree   Strongly Disagree

9. All in all, I am inclined to feel that I am a failure.

Strongly Agree   Agree   Disagree   Strongly Disagree

10. I take a positive attitude toward myself.

Strongly Agree   Agree   Disagree   Strongly Disagree

Appendix D

Consent to participate in a Questionnaire Test Anxiety, Self-esteem and Procrastination among Lebanese University Students

I would like to invite you to participate in a research project by completing the following questionnaire. I am a student at the Lebanese American University and I am completing this research project as part of my undergraduate senior study. The purpose of this questionnaire aims to study the correlation between three variables: test anxiety, self-esteem, and procrastination among Lebanese university students of age range 18-35.

There are no known risks, harms or discomforts associated with this study beyond those encountered in normal daily life. The information you provide will be used to enhance and improve the understanding of the researched topic. You will not directly benefit from participation in this study. Completing the survey will take 10 minutes of your time.

By continuing with the questionnaire, you agree with the following statements:

1. *I have been given sufficient information about this research project.*
2. *I understand that my answers will not be released to anyone and my identity will remain anonymous. My name will not be written on the questionnaire nor be kept in any other records.*
3. ***When the results of the study are reported, I will not be identified by name or any other information that could be used to infer my identity.*** *Only researchers will have access to view any data collected during this research however data cannot be linked to me.*
4. *I understand that I may withdraw from this research any time I wish and that I have the right to skip any question I don't want to answer.*
5. *I understand that my refusal to participate will not result in any penalty or loss of benefits to which I otherwise am entitled to.*
6. *I have been informed that the research abides by all commonly acknowledged ethical codes and that the research project has been reviewed and approved by the Institutional Review Board at the Lebanese American University*
7. *I understand that if I have any additional questions, I can ask the research team listed below.*
8. *I have read and understood all statements on this form.*
9. *I voluntarily agree to take part in this research project by completing the following questionnaire.*

If you have any questions, you may contact:

Name (PI)	Phone number	Email address
Mira El Masri	71220380	mira.elmasri01@lau.edu

If you have any questions about your rights as a participant in this study, or you want to talk to someone outside the research, please contact the:

Institutional Review Board Office,
Lebanese American University
3rd Floor, Dorm A, Byblos Campus
Tel: 00 961 1 786456 ext. (2546)

irb@lau.edu.lb

This study has been reviewed and approved by the LAU IRB:

LAU
لبنانية الأمريكية
Lebanese American University

Institutional Review Board (IRB)

NOTICE OF IRB EXEMPTION DETERMINATION

To:	Ms. Mira El Masri	NOTICE ISSUED: 26 October 2020
	Dr. Rudy Abi Habib	EXPIRATION DATE: 26 October 2022
	Assistant Professor	REVIEW TYPE: EXEMPT CATEGORY B
	School of Arts and Sciences	

Date: October 26, 2020

RE: IRB #: LAU.SAS.RH13.26/Oct/2020

Protocol Title: Test Anxiety, Self-esteem and Procrastination among Lebanese University Students

Your application for the above referenced research project has been reviewed by the Lebanese American University, Institutional Review Board (LAU IRB). This research project qualifies as exempt under the category noted in the Review Type

This notice is limited to the activities described in the Protocol Exempt Application and all submitted documents listed on page 2 of this letter. **Final reviewed consent documents or recruitment materials and data collection tools released with this notice are part of this determination and must be used in this research project.**

CONDITIONS FOR ALL LAU NOTICE OF IRB EXEMPTION DETERMINATION

LAU RESEARCH POLICIES & PROCEDURES: All individuals engaged in the research project must adhere to the approved protocol and all applicable LAU IRB Research Policies & Procedures. PARTICIPANTS must NOT be involved in any research related activity prior to IRB notice date or after the expiration date.

EXEMPT CATEGORIES: Activities that are exempt from IRB review are not exempt from IRB ethical review and the necessity for ethical conduct.

PROTOCOL EXPIRATION: PROTOCOL EXPIRATION: The LAU IRB notice expiry date for studies that fall under Exemption is 2 years after this notice, as noted above. If the study will continue beyond this date, a request for an extension must be submitted at least 2 weeks prior to the Expiry date.

MODIFICATIONS AND AMENDMENTS: Certain changes may change the review criteria and disqualify the research from exemption status; therefore, any proposed changes to the previously IRB reviewed exempt study must be reviewed and cleared by the IRB before implementation.

RETENTION: Study files must be retained for a period of 3 years from the date of project completion.
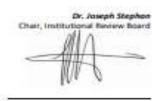
IN THE EVENT OF NON-COMPLIANCE WITH ABOVE CONDITIONS, THE PRINCIPAL INVESTIGATOR SHOULD MEET WITH THE REPRESENTATIVES OF THE IRB OFFICE IN ORDER TO RESOLVE SUCH CONDITIONS. IRB CLEARANCE CANNOT BE GRANTED UNTIL NON-COMPLIANT ISSUES HAVE BEEN RESOLVED.

If you have any questions concerning this information, please contact the IRB office by email at irb@lau.edu.lb

The IRB operates in compliance with the national regulations pertaining to research under the Lebanese Minister of Public Health's Decision No.141 dated 27/1/2016 under LAU IRB Authorization reference 2016/3708, the international guidelines for Good Clinical Practice, the US Office of Human Research Protection (45CFR46) and the Food and Drug Administration (21CFR56). LAU IRB U.S. Identifier as an international institution: FWA00014723 and IRB Registration # IRB00006954 LAUIRB#1

Dr. Joseph Stephan
Chair, Institutional Review Board

DOCUMENTS SUBMITTED:

LAU IRB Exempt Application	Received 23 October 2020, resubmitted 24 October 2020
Research Protocol	Received 23 October 2020, resubmitted 24 October 2020
Informed Consent	Received 23 October 2020
Questionnaire	Received 23 October 2020, amended 25 October 2020
Link to online survey	Received 23 October 2020, amended 25 October 2020
IRB Comments sent: 25 October 2020	PI response to IRB's comments dated: 25 October 2020
NIH Training – Rudy Abi Habib	Cert.# 1410737 (dated 21 February 2014)
CITI Training – Mira El Masri	Cert.# 35583792 (dated 27 February 2020)

Institutional Review Board
Lebanese American University
2 6 OCT 2020
APPROVED