EFFECTS OF TEST ANXIETY, DISTANCE EDUCATION ON GENERAL ANXIETY AND LIFE SATISFACTION OF UNIVERSITY STUDENTS

Abstract: The objective of this study was to investigate the effects of test anxiety and dimensions of distance education on general anxiety and life satisfaction of university students. A total of 426 university students voluntarily asked to respond on online scales of test anxiety, distance education, general anxiety, and life satisfaction. The results revealed a strong direct positive path from test anxiety to the general anxiety (B=0.35) (p<.001). Also, test anxiety negatively influenced the students' life satisfaction with either a direct or indirect way. Furthermore, the general anxiety negatively affected the student's life satisfaction. Likely, Student autonomy directly and negatively affected the general anxiety. Moreover, student interaction, authentic learning, and active learning directly and positively affected the life satisfaction of the students. Student autonomy directly depressed the general anxiety which indirectly improved the students' life satisfaction. Likely, student interaction, authentic learning, and active learning directly improved the students' life satisfaction. Further researches required to be conducted in this research area.

Keywords: Test anxiety, distance learning, the general anxiety, students life satisfaction

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INTRODUCTION

During the global Covid-19 pandemic, digital technologies have captured the human imagination for their potential support in the fight against COVID-19. This pandemic virus was forced schools and universities to shut down the study in their campuses. Many educators overall the world are encouraged to shift their teaching methods to appropriate alternative strategies such as online education. Many universities worldwide approved the use of online and distance education as a potential application of digital technologies against COVID-19, especially in socially isolated regions. Online and distance education keep the students digitally isolated during learning, studying, and qualifying processes with no need to attend to the college campus. Some universities find distance education as a great challenge or even impossible. The success of distance education depends on the academic content and the effectiveness of the communication system used in the online learning process (Roberts, Irani, Telg & Lundy, 2005; Areti, 2006). Zimmerman (2002) notes that student independence contributes to success within distance learning environments. The independency of the student is a very important factor in the success of distance education (Lynch& Dembo, 2004; Ke & Kwak, 2013). Gagne & Shepherd (2001) suggest that the performance of students in a distance course similar to the performance of students in a campus course (Gagne & Shepherd, 2001).

The university stage is a very critical transition period during which the students move from adolescence to adulthood. Linearly, Sarokhani et al. (2013) observe that college years are stressful times in the student's life.

Distance education can increase student anxiety regarding the study and exams (Ajmal & Ahmad, 2019). Besides, the teaching methods and teacher evaluation are factors affecting the academic performance and anxiety of the students (Duraku, 2016). The student's general anxiety can aggravate with the rapid spread of coronavirus pandemic and appearance of distance online education as a substitute for the University campus courses.

These stressful factors may affect the student general life badly. Therefore, the current study conducted to determine the impact of test anxiety and various dimensions of distance education on the general anxiety and quality of life of university students. Also, the study will help the education policymakers and political leaders to make their decisions about the future using of online learning and distance education.

TEST ANXIETY AND THE GENERAL ANXIETY

Test anxiety is a type of anxiety which the students feel before, during, or after examinations (Lawson, 2006; Duraku, 2016). So the educational system, parents' expectations, and the student's desire to enter a specific college or acceptance to some jobs depend on the performance in the exams (Lawson, 2006). Therefore, examinations are an important part of students' life for transfer to the next stage or returning to the previous stage (Lawson, 2006; Rani, 2017).

Some students have a test anxiety level above the average, which may hurt their performance in the exams (Embse, Jester, Roy & Post, 2018). Others have a normal average level of anxiety which drives to increase academic performance (Putwain, Connors, Woods & Nicholson, 2012). Linearly, the students attained excellent grades in their studies may appear to have higher test anxiety rather than those attained downgrades (Banks & Smyth, 2015). Besides, the students who have a high level of test anxiety will feel much more anxious than students who are not worried about the test (Beide, Turner & Trager, 1994). Moreover, students with a higher level of self-efficacy have lower levels of test anxiety (Mulvenson, Stegman & Ritter, 2005). High mindful students showed a low level of test anxiety and vice versa (Brannon, 2010).

The general anxiety divides into status anxiety and trait anxiety. Status anxiety occurs during certain situations such as tests. So, test anxiety is a form of status anxiety (Hong & Karstensson, 2002; Huberty & Dick, 2006). The students who show a high level of status anxiety do not necessarily have a high level of trait anxiety. However, the students who have a high level of trait anxiety have a high level of status anxiety (Huberty & Dick, 2006). In normal circumstances, some students have a high level of test anxiety, which may reflect on their health with appearing of some psychological and physical symptoms. These symptoms such as difficulty sleeping, frequent waking, nightmares,

insomnia, and stay active until late at night. Also, take sleeping pills and anti-anxiety. (Spangler, Pekrun, Kramer & Hofmann, 2002; Eller, Aluoja, Vasar & Veldi, 2006). Moreover, test anxiety reflects on attention and memory so badly (Birjandi & Alemi, 2010). Low and moderate test anxiety positively affects student performance (Chapell et al., 2005; Nicholson, 2009; Vitasari, Wahab, Othman, Herawan & Sinnadurai, 2010; DordiNejad et al., 2011; Singh, 2015), while the high level of test anxiety negatively affects student performance (Sung, Chao & Tseng, 2016).

Test Anxiety And Life Satisfaction

Many students experience anxiety during and before the exams, as they want to obtain high marks. This anxiety reflects negatively on the academic performance. Moreover, many physiological symptoms may exhibit on students such as increased heart rate, muscle tension, facial redness, and feeling panic (Karatas, Alci & Aydin, 2013). Also, it causes many reactions on the student such as lack of focus, and become irritable (Huberty & Dick, 2006).

Arbabisarjou, Zare, Shahrakipour & Ghoreishinia (2016) state that the average level of test anxiety can be beneficial and a catalytic and effective factor, while the excessive level of test anxiety can be lead to a lack of focus and low academic performance.

Causes of test anxiety are lack of time management, lack of study skills, low GPA, psychological distress, fear of failure, poor self-esteem, poor self-confidence, weak psychosocial support, and other factors (Aziz & Serafi, 2017; Cipra & Müller-Hilke, 2019).

Test anxiety varies from the university stage to another. Moreover, undergraduate students have significantly higher levels of test anxiety compared to graduate students. As well as, the undergraduate students suffer from fear of failure, a lack of time management skills, and a lack of study skills compared to masters students (Duraku, 2016). Likewise, the second-year students of the Medical College, University of Houston, Texas, USA showed a higher level of test anxiety compared to students at other educational levels (Sansgiry & Kavita Sail, 2006).

Test anxiety is the reason for a student's restlessness and fatigue, muscle contraction, and abdominal pain before the test. Moreover, test anxiety negatively affects the life of the students (Eller, Aluoja, Vasar & Veldi, 2006; Ferreira, Almondes, Braga, Mata, Lemos & Maia, 2009; Çikrıkci, Erzen & Yeniçeri, 2019), may affect many areas of life (Lufi, Okasha & Cohen, 2004), and can negatively predict changes in the cognitive and emotional component of general wellbeing (Steinmayr & McElvany, 2016).

The General Anxiety And Life Satisfaction

The university stage differs from the previous educational levels, since the distance of family and friends, making new friends, a difference in teaching strategies, and other challenges needs efforts from the student to adapt to it (Roberts & Zelenyanski, 2002). The student needs to improve and adjust his life to feel satisfaction without any psychological disturbances. Some previous research shows that a lower level of life satisfaction associated with a higher level of anxiety (Cook, Black, Rabins & German, 2000; Samaranayake & Fernando, 2011). Students who have low anxiety have high life satisfaction, also students who have lower scores on state anxiety have higher scores of life satisfaction, while students who have higher scores on trait anxiety have lower scores of life satisfaction (Paschali & Tsitsas, 2010). Life satisfaction is a valuable concept that is related to both psychological, emotional variables and some events of daily life. Therefore, it is an important indicator of mental health (Tsitsas, Nanopoulos & Paschali, 2019).

Distance Education

Today, distance education shows tremendous development with new advanced technologies. Nevertheless, dating more than 100 years old (Birnbaum, 2001; Meyer, 2002). Distance education does not require physically attending, while it keeps the interaction between students and teachers indirect (Tuncay & Uzunboylu, 2010; Ajmal & Ahmad, 2019). The primary goal of distance education is to create educational chances for the students who cannot access to the traditional educational institution due to social and economic conditions, family circumstances, physical disabilities, and geographical barriers (Jonasson, 2001; Garg, 2018). In distance education, the classrooms will be directly in the bedrooms, and study materials are on the computers (Goodyear, Salmon, Spector, Steeples & Tickner, 2001; Ní Shé et al., 2019).

Distance education gives the students who have no time to learn the chance to improve their qualifications. However, distance education requires a strong motivation and a high level of focusing to complete its courses (Rovai, Ponton, Wighting & Baker, 2007; Whiting, Liu & Rovai, 2008). Moreover, the student in distance learning feels lonely in the virtual classrooms (Dickey, 2004; Lorenzetti, 2005). This can be due to the lack of physical interaction between students and teachers (Dyrud, 2000). Additionally, some private companies in the labor market and some government jobs do not rely entirely on distance education to obtain the educational qualification, as they believe that distance education is still not a serious form of education (Nagrale, 2013).

The present study presents the following hypotheses:

1. There are no significant paths from test anxiety to the general anxiety, and life satisfaction.
2. There are no significant paths from dimensions of distance learning to the general anxiety and life satisfaction.
3. There are no significant paths from the general anxiety to life Satisfaction.

METHOD

PARTICIPANTS

Second-year University students of three Egyptian governmental Universities (Sadat City, Menofia, and Bani Suef Universities) were invited to participate in the study. Those students were enrolled in an online distance education program during the Covid-19 pandemic for the last three months of their second term (March-May, 2020). The participants are voluntarily asked to respond to the online study tools using Google Forms (Google Inc.). The unique link of the online tools was sent to target student samples via the Telegram internet app. The students were able to respond to the online tools via their smartphones. After complete data collection, the result sheet was downloaded then the Google Form sent to die in the Google server.

The study was conducted on two different samples separately collected: the first is the psychometric sample collected firstly to assess the psychometric properties of the study tool, whereas the second was the main study sample. The psychometric sample was composed of 109 university students of either sex in the age group of 19–20 years. The psychometric sample was composed of 38 males (M = 19.90, SD= 0.31) and 71 females (M = 19.68, SD= 0.47). The basic sample of the study consisted of 426 undergraduate university students of 132 males (M= 19.91, SD =0.61), and 294 female students (M= 19.82, SD= 0.53).

MATERIALS AND PROCEDURE

The Generalized Anxiety Disorder Scale used according to Spitzer, Kroenke, Williams & Lowe (2006). This scale consisted of seven items to evaluate the level of anxiety disorder. The evaluation of the participant's responses followed the Likert-type format as not at all sure= 0, several days=1, over half the days=2, and nearly every day=3. The Cronbach's alpha for the generalized anxiety disorder scale was α= 0.79, M = 9.5, SD= 5.21.

Distance Education Scale built according to Walker & Fraser (2005), which included 34 items. The evaluation of the participant's responses followed the Likert-type format from strongly agree=5 to strongly disagree=1. The distance education scale composed of six dimensions were instructor support (α= 0.95, M=21.32, SD= 7.94), student interaction and collaboration (α= 0.93, M=15.752, SD= 5.4), personal relevance (α= 0.94, M=17.29, SD= 6.38), authentic learning (α= 0.93, M=12.32, SD= 4.5), active learning (α= 0.82, M=8.06, SD= 2.84), and student autonomy (α= 0.91, M=13.85, SD= 5.03).

Westside Test Anxiety Scale developed by Driscoll (2007), which consisted of (10) items. The sample came to choose a response from five responses followed the Likert- type format, where the responses ranged from 1- 5 score. The Cronbach's alpha of the Westside Test Anxiety Scale was α= 0.896, M= 36.06, SD= 7.76.

Satisfaction of Life Scale constructed by Diener, Emmons, Larsen & Griffin (1985). This scale composed of (5) items. The responses on this scale followed the five Likert-type format, where the total score ranged from 1- 25. The Cronbach's alpha of Satisfaction of Life Scale was α= 0. 74, M= 13.31, SD= 3.41.

RESULTS

The correlation matrix among different study variables showed a negative correlation between test anxiety and dimensions of distance education ($p < 0.01$), as well as life satisfaction (-0.278) ($p<0.01$) Table (1), while test anxiety a positively correlated with the general anxiety (0.373) ($p < 0.01$)

Table 1. Pearson correlation for the associations between test anxiety, dimensions of distance education, general anxiety, and life satisfaction.

Parameters	1	2	3	4	5	6	7	8	9
1.Test anxiety	1								
2. Instructor support	-.145**	1							
3. Student interaction	-.167**	.621**	1						
4. Personal relevance	-.213**	.615**	.679**	1					
5. Authentic learning	-.173**	.579**	.560**	.767**	1				
6. Active learning	-.150**	.531**	.547**	.740**	.670**	1			
7. Student autonomy	-.202**	.531**	.552**	.700**	.638**	.788**	1		
8. Life Satisfaction	-.278**	.284**	.354**	.409**	.395**	.380**	.371**	1	
9. General anxiety	.373**	-.045	-.099*	-.170**	-.108*	-.148**	-.185**	-.334**	1

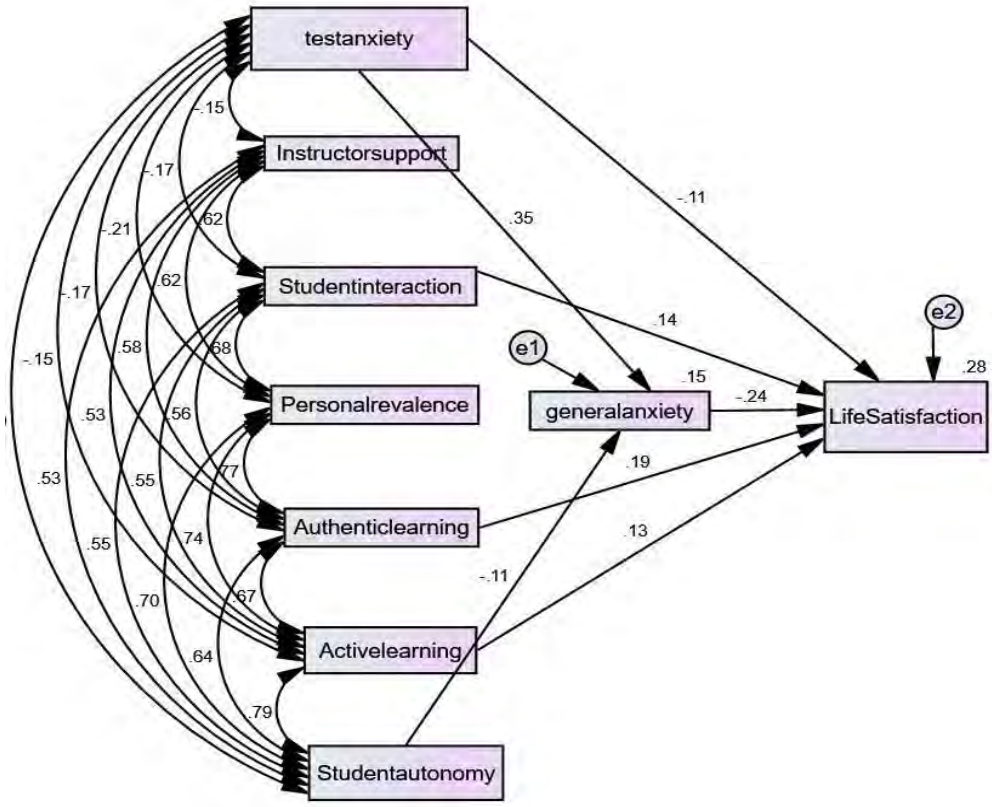
N=426

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

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

Instructor support positively correlated with other distance learning dimensions, as well as life satisfaction (0.284) ($p < 0.01$). Student interaction positively correlated with other distance learning dimensions, as well as life satisfaction (0.354) ($p<0.01$), but student interaction negatively correlated with the general anxiety (-0.099) ($p<0.05$). Personal relevance positively correlated with other distance learning dimensions, as well as life satisfaction (0.409) ($p < 0.01$), but personal relevance negatively correlated with the general anxiety (-0.170) ($p<0.01$). Authentic learning positively correlated with other distance learning dimensions, as well as life satisfaction (0.395) ($p<0.01$), while authentic learning negatively correlated with the general anxiety (-0.108) ($p<0.05$). Active learning positively correlated with other distance learning dimensions, as well as life satisfaction (0.380) ($p <0.01$), while active learning negatively correlated with the general anxiety (-0.148) ($p< 0.01$). Student autonomy positively correlated with other distance learning dimensions, as well as life satisfaction (0.371) ($p<0.01$), while student autonomy negatively correlated with the general anxiety (-0.185) ($p<0.01$). The general anxiety negatively correlated with life satisfaction (-.334) ($p < 0.01$). The model fit indicted for the modified path model showed good model fit, as the value of the chi-square was 6.225 with a degree of freedom of 8 and not significant at ($P<0.05$). The chi-square/degree of freedom ratio was 0.778. Linearly, the values of NFI, RFI, IFI, TLI, CFI, GFI, and AGFI were 0.997, 0.986, 1.001, 1.004, 1.000, 0.997, and 0.982, this evidenced efficient model fit. Similarly, the values of the RMSEA and SRMR were zero and 0.01, which indicated a good model fit (Fig. 1).

Figure 2. Path model of the effect of the test anxiety and dimensions of distance education on the general anxiety and life satisfaction of university students.



The path model reveals that the effect of test anxiety on the general anxiety is significant with a direct standardized beta load of (0.350) ($p < 0.001$) (Tables 2; 3). Also, the effect of test anxiety on life satisfaction is significant with a direct standardized beta load of (-0.114) ($p < 0.01$). Moreover, the general anxiety affects the life satisfaction with a direct standardized beta load of (-0.239) ($p < 0.001$). Furthermore, all dimensions of distance learning do not affect the general anxiety with exception of student autonomy dimension, which affects the general anxiety with a direct standardized beta load of (-0.114) ($p < 0.01$). Additionally, student interaction, active learning, and authentic learning affect life satisfaction with a direct standardized beta load of (0.136), (0.128), and (0.186), respectively.

Table 2. Standardized beta load between test anxiety, dimensions of distance education, general anxiety, and life satisfaction in the path model.

Structural Paths			β	C.R.	P-Value
Student autonomy	→	General anxiety	-0.114	-2.499	0.012
Test anxiety	→	General anxiety	0.350	7.666	***
Student interaction	→	Life satisfaction	0.136	2.630	0.009
Test anxiety	→	Life satisfaction	-0.114	-2.548	0.011
Active learning	→	Life satisfaction	0.128	2.224	0.026
Authentic learning	→	Life Satisfaction	0.186	3.193	0.001
general anxiety	→	Life Satisfaction	-0.239	-5.374	***

Table 3: Standardized direct, indirect, and total effects between different study variables.

Parameters		Test anxiety	Student interaction	Authentic learning	Student autonomy	Active learning	General anxiety
General anxiety	Direct	0.350	0.000	0.000	-0.114	0.000	0.000
	Indirect	0.000	0.000	0.000	0.000	0.000	0.000
	Total	0.350	0.000	0.000	-0.114	0.000	0.000
Life satisfaction	Direct	-0.114	0.136	0.186	0.000	0.128	-0.239
	Indirect	-0.083	0.000	0.000	0.027	0.000	0.000
	Total	-0.197	0.136	0.186	0.027	0.128	-0.239

The indirect effect of test anxiety on life satisfaction is -0.083. Moreover, student autonomy has an indirect effect on life satisfaction with a standardized beta load of 0.027. Furthermore, all dimensions of distance education do not affect the general anxiety. The path model shows a significant correlation among dimensions of distance education, as student autonomy significantly correlates with active learning (0.788). Also, student autonomy correlates with personal relevance (0.700) (Figure 1). Besides, active learning significantly correlates with personal relevance (0.740). Moreover, student autonomy, active learning, authentic learning, personal relevance, student interaction, and instructor support correlate with test anxiety with values of -0.202, -0.150, -0.173, -0.213, -0.167, and -0.145, respectively. The path model succeeds in explaining about 0.28 from the total variation of life satisfaction, and 0.15 from the variation of the general anxiety.

Test anxiety directly and negatively affects life satisfaction. This outcome consists of (Ferreira, Almondes, Braga, Mata, Lemos & Maia, 2009; Çikrıkci, Erzen & Yeniçeri, 2019). Linearly, Çikrıkci, Erzen & Yeniçeri (2019) suggested that test anxiety negatively correlated with life satisfaction. Moreover, test anxiety may affect many life domains (Steinmayr & McElvany, 2016). The students exhibit sever levels of test anxiety show low academic performance with a lack of focusing on studying and examination (Keogh, Bond, French, Richards & Davis, 2004). Also, those students experience insomnia, fatigue, difficulty sleeping, and waking up active all night. Furthermore, their life was effective in general with reduced life satisfaction (Lufi, Okasha & Cohen, 2004). Linearly, Steinmayr & McElvany (2016) found that test anxiety may negatively predict changes in the cognitive and emotional component of wellbeing.

DISCUSSION

The current study aims to determine the factors that may affect the life satisfaction of university students. The casual path model between the study variables reveals that test anxiety directly and positively affects the general anxiety. This result agrees with the findings of (Barinder, 1985; Beide, Turner & Trager, 1994; Bruehi, 2009; Sridevi, 2013), as they reported that test anxiety relates to the general anxiety. The findings reveal that the student who has high test anxiety show more general anxiety. Hence, the student feels all the time worried about the results of the exams.

Student autonomy directly and negatively affects general anxiety. This could be due to the independence of the student contributed effectively to success within distance education (Lynch & Dembo, 2004; Ke & Kwak, 2013). Walker & Fraser (2005) revealed that student autonomy plays an important role in the distance education system. Distance education requires the student is self-reliant in receiving information and strong motivation to communicate and complete the educational process (Whiting, Liu & Rovai, 2008). Furthermore, distance education needs a computer, internet, and electricity all time. Besides, the student should have the ability and skill in dealing with such devices and modern technologies. Any problem during the explanation or any problem relates to computer will cause student frustration and anxiety (Connolly, Jones & O'Shea, 2005).

Besides, Tuncay & Uzunboylu (2010) see during the beginning of the distance learning process, the student feels anxiety and uneasiness about dealing with the computer, how to communicate with the teacher, the internet, the presence of electricity throughout the lecture period. Many questions revolve in the mind of the student raise concern and will affect his absorption and his ability to learn.

According to, the effect of the dimensions of distance education on life satisfaction. Student interaction, authentic learning, and active learning directly and positively affect life satisfaction. Walker & Fraser (2005) identified student interaction, collaboration, instructor support, personal relevance, authentic learning, student autonomy, and active learning as dimensions consider important in high-quality distance education environments. The student has the ability and skill to deal with computer and realizing that distance education is a useful and flexible way to learn, communicate, and participate, their will enjoyment of online education and will reflect in the level of their life satisfaction (Ozkan & Koseler, 2009; Caliskana, Suzek, Ozcan, 2017).

The general anxiety directly and negatively affects the life satisfaction of university students. This result agrees with (Boa, Pan, Shi & Ji, 2013; Warnecke, Baum, Peer & Goreczny, 2014; Lucas-Carrasco, Sastre-Garriga, Galan, Den Oudsten, & Power, 2014; Tsitsas, Nanopoulos & Paschali, 2019). Where the anxiety negatively correlates with life satisfaction. In this stage, university students go through an important period of change (Sarokhani et al, 2013). Moreover, students who experience a lot of psychological and social stressors will experience a higher of the anxiety (Farrer, Gulliver, Bennett, Fassnacht & Griffiths, 2016). Student's life will affect because of the anxiety. Also, the anxiety inhibits the enjoyment of various life fields. Students have higher anxiety in their life have a low level of life satisfaction. Bukhari & Saba (2017) report that students who face less distress have a higher level of life satisfaction.

CONCLUSION

All distance education dimensions negatively correlated with the students test anxiety. Also, test anxiety negatively influences the students' life satisfaction with either a direct or indirect way. Students test anxiety positively influence general anxiety. Furthermore, Student autonomy directly depressed the general anxiety which indirectly improved the students' life satisfaction. Likely, student interaction, authentic learning, and active learning directly improved the students' life satisfaction.

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