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**THE EFFECT OF EXPERIENTIAL AVOIDANCE AND COMMITTED
ACTION ON THE RELATIONSHIP BETWEEN ANXIETY AND
QUALITY OF LIFE IN CHRONICALLY ILL AND HEALTHY STUDENTS**

Rufaida Mohammed N Alkhanji

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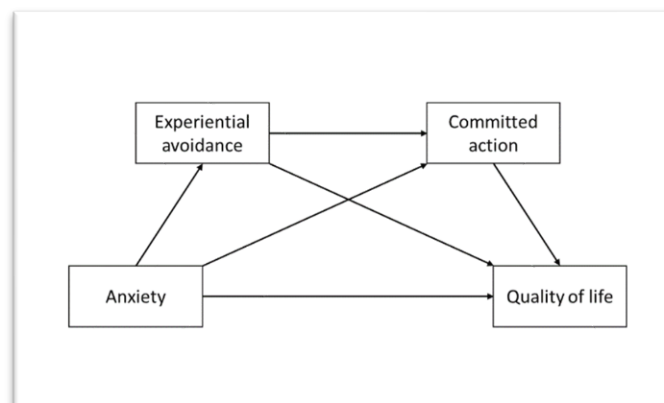
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College of Medicine and Health Sciences

Department of Clinical Psychology

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Rufaida Mohammed N Alkhanji



November 2022

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COMMITTED ACTION ON THE RELATIONSHIP BETWEEN
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HEALTHY STUDENTS

Rufaida Mohammed N Alkhanji

This thesis is submitted in partial fulfilment of the requirements for the degree of Master
of Science in Clinical Psychology

November 2022

Cover: A proposed mediation model of the relationships between anxiety, experiential avoidance, committed action, and quality of life

(Photo: By Rufaida Mohammed N Alkhanji)

Declaration of Original Work

I, Rufaida Mohammed N Alkhanji, the undersigned, a graduate student at the United Arab Emirates University (UAEU), and the author of this thesis entitled “*The Effect of Experiential Avoidance and Committed Action on the Relationship Between Anxiety and Quality of Life in Chronically Ill and Healthy Students*”, hereby, solemnly declare that this is the original research work done by me under the supervision of Dr. Zahir Vally, in the College of Medicine and Health Sciences at UAEU. This work has not previously formed the basis for the award of any academic degree, diploma or a similar title at this or any other university. Any materials borrowed from other sources (whether published or unpublished) and relied upon or included in my thesis have been properly cited and acknowledged in accordance with appropriate academic conventions. I further declare that there is no potential conflict of interest with respect to the research, data collection, authorship, presentation and/or publication of this thesis.

Student's Signature: _____



Date: _____29/11/2022_____

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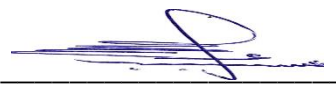
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Abstract

Chronic illness and anxiety are two factors that have been shown to negatively impact quality of life. In order to better understand the impact of chronic illness on quality of life, researchers have been interested in studying the effects of experiential avoidance and committed action. This thesis aims to examine the roles of experiential avoidance and committed action as potential mediators in the relationship between anxiety and quality of life. It also aims to compare the occurrence of the studied relationships in students with and without chronic illness. 547 participants from two Arab universities completed self-report measures assessing their levels of anxiety, quality of life, experiential avoidance, and committed action. Results revealed that experiential avoidance and committed action partially mediated the relationship linking anxiety with quality of life. The mediating effects, however, were only observed in healthy students. Results highlighted the psychological difficulties of students with a chronic illness. It emphasized the importance of university programs addressing these concerns in the students. Furthermore, the study generalized past research results to students from the Arab region.

Keywords: Anxiety, quality of life, experiential avoidance, committed action, chronic illness.

Title and Abstract (in Arabic)

تأثير التجنب التجريبي والعمل الملتزم في العلاقة بين القلق ونوعية الحياة لدى الطلاب المصابين بأمراض مزمنة والأصحاء

الملخص

المرض المزمن والقلق هما عاملان ثبت أنهما يؤثران سلبًا على جودة الحياة. من أجل فهم تأثير المرض المزمن على جودة الحياة بشكل أفضل، اهتم الباحثون بدراسة آثار التجنب التجريبي والعمل الملتزم. تهدف هذه الأطروحة إلى دراسة أدوار التجنب التجريبي والعمل الملتزم كوسطاء محتملين في العلاقة بين القلق وجودة الحياة. كما تهدف إلى مقارنة حدوث العلاقات المدروسة لدى الطلاب المصابين وغير المصابين بمرض مزمن. أكمل 547 مشاركًا من الجامعات العربية مقاييس التقرير الذاتي لتقييم مستويات القلق وجودة الحياة والتجنب التجريبي والعمل الملتزم. كشفت النتائج أن التجنب التجريبي والعمل الملتزم توسط جزئيًا في العلاقة التي تربط القلق بجودة الحياة. مع ذلك، لوحظت التأثيرات الوسيطة فقط في الطلاب الأصحاء. أبرزت النتائج الصعوبات النفسية لدى الطلاب المصابين بأمراض مزمنة. وشددت على أهمية البرامج الجامعية التي تعالج هذه الصعوبات لدى الطلاب. علاوة على ذلك، عمت الدراسة نتائج البحوث السابقة على الطلاب من المنطقة العربية.

مفاهيم البحث الرئيسية: القلق، جودة الحياة، التجنب التجريبي، العمل الملتزم، المرض المزمن.

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I would also like to thank my classmates for their assistance and encouragement during my research process and throughout my academic study. Sincere appreciation is extended to the participants for their time and openness which made it possible to conduct this study.

Special thanks go to my family and friends for being my biggest supporters.

Dedication

To my family and friends

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List of Abbreviations

AAQ-II	Acceptance and Action Questionnaire-II
ACT	Acceptance and Commitment Therapy
CAQ-8	Committed Action Questionnaire-8
CDC	Centers for Disease Control and Prevention
DASS-21	Depression, Anxiety, and Stress Scale-21
IBD	Inflammatory Bowel Disease
PTSD	Post-traumatic Stress Disorder
QoL	Quality of Life
WHO	World Health Organization
WHOQOL-BREF	World Health Organization Brief Quality-of-Life Assessment Scale

Chapter 1: Introduction

1.1 Overview

Several research studies report high rates of anxiety among university students in Arab countries (Al Bahhawi et al., 2018; Shawahna et al., 2020). Additionally, following the COVID-19 outbreak, anxiety has been relatively high among college students worldwide which necessitates the need for a better understanding of the occurrence of anxiety symptoms in this population (Chang et al., 2021). It must also be noted that experiencing high levels of anxiety is accompanied by a plethora of negative implications for students including depressive symptoms (Wen et al., 2022), poor sleep quality (Yin et al., 2021), low thriving (Sahin & Tuna, 2022), and decreased quality of life (QoL, Jenkins et al., 2021). It has been long established that high levels of anxiety are linked with impaired QoL (Quilty et al., 2003).

The Centers for Disease Control and Prevention (CDC, 2022) define chronic illnesses as conditions that last for a year or longer which impede everyday activities, require continuing medical care, or both. Nonetheless, in addition to the clinical and social definitions of chronic illnesses, how individuals struck by diseases report their conditions should be considered (Dimond, 1984). Chronic health conditions have been shown to have a negative impact on patients' QoL (Kilian et al., 2001). It has been noted in the literature that anxiety in chronically ill patients can compromise their physical well-being as well as impair their perception of their QoL (e.g., Urrutia et al., 2012). This generates an interest in exploring the relationship between anxiety and QoL in healthy and chronically ill populations.

The World Health Organization (WHO) defines QoL as "individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns" (1998, p. 1). According to WHO, it is a wide-ranging construct that is influenced by an individual's physical and psychological health, independence, and social relationships in addition to one's beliefs and their connection to prominent characteristics of their environment. Different researchers have attempted to identify the psychological processes that mediate the relationship between chronic illness and perceived QoL. Some of the examined

mediators include resilience (Schwartz et al., 2017; Terrill et al., 2016), spiritual well-being (Wang & Lin, 2016; White, 2013), and gender socialization (Dancey et al., 2002). Moreover, research studies have explored the mediating role of different core processes of Acceptance and Commitment Therapy (ACT) such as experiential avoidance and committed actions (e.g., Trindade et al., 2016).

According to ACT, the combinations and interactions of six core processes create psychological inflexibility that can cause or exacerbate human suffering or psychopathology (Luoma et al., 2007). These processes include dominance of the conceptualized past and feared future, cognitive fusion, experiential avoidance, attachment to conceptualized self, lack of contact with values or lack of clarity about values, and inaction, impulsivity, and avoidant persistence (Hayes et al., 2006). Furthermore, based on ACT, psychological flexibility involves six core processes which include acceptance, defusion, self as context, committed action, values, and contact with the present moment (Hayes & Strosahl, 2005). Hayes and colleagues (2006) report that each process relates to and overlaps with the other processes as well as facilitates them. They reveal that these processes establish psychological flexibility which enables the individual to contact the present moment more fully and change or persist through behaviors that serve valued ends.

Experiential avoidance refers to the tendency to avoid, change, or eliminate unpleasant private experiences such as thoughts and feelings (Harris, 2008). Hayes and colleagues (2006) believe that these efforts to escape unwanted private events are likely to limit the behaviors that one may engage in as there are many behaviors that can elicit these dreaded private experiences. They explain that when focus is drawn to one's internal world, engagement in behaviors that are in accordance with one's values, referred to as committed actions, becomes less likely. Therefore, according to Luoma et al. (2007), persevering in unworkable actions can interfere with the process of creating a meaningful and rewarding life which relies on engaging in committed action. In addition, the authors reveal that lack of engagement in committed action due to experiential avoidance can cause low QoL as well as impulsive or self-defeating behaviors. On the other hand, engagement in committed action contributes to accepting

responsibility for behavioral changes along with adapting and persisting when needed (Hayes & Strosahl, 2005).

Available evidence reveals differences between chronically ill and healthy individuals with regard to their experiences with anxiety and QoL. Chronically ill patients report anxiety levels higher than healthy individuals while their QoL is lower than their healthy counterparts (e.g., Moreira et al., 2013; Nazari et al., 2017). Additionally, students with chronic illnesses are more likely to report poor psychological functioning and adjustment than healthy students (Johnston et al., 2021). The existing literature suggests many possible causes for the differences in psychological wellbeing between the two groups. One suggested explanation is that chronically ill patients are exposed to more stressors, such as finances and lifestyle factors, than their healthy peers which results in increased anxiety and depression (Johnston et al., 2021; Mullins et al., 2017). Another likely cause is the absence of protective factors that can mitigate negative psychological outcomes in chronically ill individuals. According to Herts and colleagues (2014), few students with chronic illnesses have social support or utilize available resources. Moreover, researchers have maintained that the increased vulnerability of chronically ill students to mood disorders subsequently decreases their QoL (Herts et al., 2014; Johnston et al., 2021).

Recent research findings allude to the role of ACT core processes in the differences between those with and without chronic illnesses. Researchers believe that struggles associated with diagnoses are probably due to processes of psychological inflexibility (Castro et al., 2021). Coutinho and colleagues (2021) believe that chronically ill patients demonstrate higher anxiety and lower QoL compared to healthy peers as a result of experiential avoidance. They hypothesize that chronically ill patients are more likely to exhibit higher levels of experiential avoidance than healthy individuals because they engage more in experiential avoidance related to internal events, such as suppressing physical symptoms, leading their QoL to decline.

A variety of interventions have been used to counter the impact of anxiety on QoL (Mendlowicz & Stein, 2000). Nonetheless, by identifying the mediating variables in the relationship, better and stronger techniques that optimize therapeutic change can be

utilized (VanderWeele & Vansteelandt, 2009). Therefore, if evidence continues to support the mediating effects of ACT core process on the relationship between anxiety and QoL, strategies promoting acceptance and committed action can be expected to be most helpful and effective.

1.2 Statement of the Problem

Recent studies conducted in the Arab region show that more than half of university students report anxiety symptoms (Hamaideh et al., 2022; Mohammad et al., 2020). The prevalence of anxiety among students in Arab countries raises concerns about its impact on their QoL considering that high anxiety is associated with poor QoL (Al-Fayez & Ohaeri, 2011). Furthermore, when compounded with chronic health conditions, anxiety can have a greater negative impact on QoL (Thommasen & Zhang, 2006).

While the relationship between anxiety and QoL has already been well-established, the mediating effects of psychological flexibility is still being explored. Coutinho and colleagues (2021) reveal that two of these processes, committed action and experiential avoidance, has an influence on the relationship. The authors believe that experiential avoidance and lack of committed action can explain the relationship between anxiety and QoL.

There is a need for further studies that can strengthen our understanding of the relationship between anxiety and QoL in university students with chronic illness. Moreover, studies examining the mediating effects of experiential avoidance and committed action on the relationship are not only limited but have yet to be generalized across cultures and varying linguistic groups. This data could likely inform future experimental studies examining the therapeutic utility of ACT's core processes for students with chronic illness.

1.3 Relevant Literature

1.3.1 Experiential Avoidance and Chronic Illness

Multiple research studies have demonstrated the impact of experiential avoidance on patients with chronic illness. In their study, Trindade and colleagues (2016) identified the strong mediating role of experiential avoidance in the relationship between

Inflammatory Bowel Disease (IBD) symptomology and perceived QoL. Experiential avoidance was also shown to mediate the impact of IBD symptoms on levels of stress, anxiety, and depression (Trindade et al., 2021). In another study, Trindade, Duarte, and colleagues (2018) found out that experiential avoidance mediates the impact of illness-related shame on both psychological health and the quality of social relationships. In terms of the former, they explained that strong feelings of shame can lead patients to engage in experiential avoidance to avoid experiencing the difficult private event which poorly affect their psychological functioning. As for the latter, they reasoned that illness-related shame can lead to attempts to evade kindness and compassion from others isolating one from social support systems. The authors suggested that patients may misread others' kindness and concern as pity or as a judgment that they are weak and unreliable which leads them to avoid supportive social relationships.

With respect to people struggling with infertility, evidence has identified significantly greater levels of experiential avoidance in infertile couples compared to fertile couples (Cunha et al., 2016). Furthermore, Galhardo et al. (2020) reported that experiential avoidance mediated the link between beliefs about the importance of parenthood and depressive symptoms in infertile people. They explained that these beliefs contribute to the development of social, sexual, and relationship concerns which create difficult emotional states. Consequently, the authors hypothesize, those individuals use experiential avoidance to escape the emotional problems which can result in depressive symptoms.

The study of Costa and Pinto-Gouveia (2011) suggested that chronic pain patients with low levels of experiential avoidance show less depression, anxiety, and stress. Their study also showed that experiential avoidance influences the impact of maladaptive coping on depression and stress in this group. On the contrary, high levels of experiential avoidance can be a barrier to change during treatment for people with chronic pain (Gilpin et al., 2019). Also, the literature has revealed that experiential avoidance is one of the risk factors associated with fear of pain (Esteve & Ramírez-Maestre, 2013; Esteve et al., 2012; Ramírez-Maestre et al., 2014), negative mood (Ramírez-Maestre & Esteve, 2013), and poor adjustment in chronic pain patients (Ramírez-Maestre & Esteve, 2013; Ruiz-Párraga & López-Martínez, 2015; Serrano-Ibáñez et al., 2019). For people

struggling with rheumatoid arthritis, higher levels of experiential avoidance were associated with higher levels of mood impairment and disability as well as lower QoL (Mehta et al., 2016). In addition, it was shown to be significantly related with Post-traumatic Stress Disorder (PTSD) symptomology in patients with immunity problems (Corman et al., 2022).

Researchers have suspected that relevant levels of experiential avoidance observed in cancer patients are the result of attempts to escape the reality of having cancer (Trindade et al., 2020a) and cope with the uncertainty associated with it (Aldaz et al., 2018; Sarizadeh et al., 2021). It also plays a role in the wellbeing of cancer patients seeing that it mediates the relationship between illness uncertainty and reduced wellbeing as well as the one between distress and poor wellbeing (Aldaz et al., 2020). When it comes to women with breast cancer specifically, experiential avoidance was associated with decreased QoL (Han et al., 2021) along with poor emotional wellbeing (Aguirre-Camacho et al., 2017). Also, it was proved to be significantly associated with greater levels of anxiety, depression, insomnia, fatigue, cognitive impairments, and fear of cancer returning (Guimond et al., 2019). Furthermore, findings concerning breast cancer patients indicated that experiential avoidance maintains anxiety and depressive symptoms (Aguirre-Camacho et al., 2017) as well as negatively impacts QoL (Aguirre-Camacho et al., 2017; Oliveri et al., 2019). Similar results were observed among patients with hematological diseases where experiential avoidance was robustly linked with higher anxiety levels and lower levels of QoL (Corman et al., 2021).

1.3.2 Committed Action and Chronic Illness

In a study conducted with individuals with chronic abdominal pain, findings revealed that committed action was significantly correlated with anxiety, depression, psychological and physical disability (Yu et al., 2020). Also, in a comparison between healthy and chronically ill individuals, Matos-pina et al. (2022) reported that those without chronic illness engaged in committed action more than those with chronic illness. Furthermore, the authors identified positive associations between committed action and QoL for both groups. Their study also revealed that the process was a mediator between internal and external shame and QoL. These results emphasized the

importance of acting in service of personal values for one's psychological functioning. This was emphasized even further when evidence revealed that enhancing committed action was associated with better daily functioning and higher psychological flexibility in patients with painful diabetic neuropathy (Kioskli et al., 2020). Additionally, it is thought that the process influences improvements in depression and pain interference among chronic pain patients (Akerblom et al., 2021). It is also believed to have a positive impact on the self-efficacy of people with chronic pain (Casey et al., 2022).

1.3.3 Committed Action, Experiential Avoidance, and Chronic Illness

Trindade and colleagues (2020b) noted that the negative relationship between illness-related shame and QoL was mediated by experiential avoidance and committed action in IBD patients. The authors believed that while patients are attempting to avoid and control shame related to their illness, their engagement in valued activities is compromised which poorly impact their QoL. Also, important links between experiential avoidance and committed action have been identified among cancer patients which show that the latter has a mediating effect on the relationship between experiential avoidance and depressive symptoms (Trindade, Marta, et al., 2018). Therefore, according to researchers, interventions targeting the two processes can improve the wellbeing of cancer patients (Hulbert et al., 2015).

The study of Akerblom et al. (2018) identified experiential avoidance and committed action as mediators in the relationship between PTSD and chronic pain. Their findings suggested that targeting these processes in chronic pain patients can lead to improvement in comorbid PTSD symptomology. Chisari and colleagues (2021) also examined processes of psychological flexibility with chronic pain patients and concluded that lower levels of committed action predicted worse depression in patients with persistent vulval pain. They explained that lack of engagement in meaningful activities can promote unhelpful focus on aversive experiences which can lead to depression.

A study has shown that, while their levels of committed action are similar, individuals with chronic diseases have higher levels of experiential avoidance and lower levels of QoL compared to others without illnesses (Castro et al., 2021). By comparing chronically ill college students with their healthy peers, Coutinho and colleagues (2021)

noted anxiety to be negatively associated with committed action and QoL while positively associated with experiential avoidance in both groups. Their findings indicated that the impact of anxiety and QoL is mediated by experiential avoidance and committed action. The authors clarified that in an attempt to cope with heightened anxiety, individuals may avoid unpleasant experiences which can limit fulfilling meaningful activities and consequently lowering their QoL.

1.4 Research Objectives

The goal of this study is to examine the mediating effects of experiential avoidance and committed action in the relationship between anxiety and QoL among university students in different Arab universities. Another objective is to compare the occurrence of these relationships in students with chronic illness and those without chronic illness.

1.5 Hypotheses

The current study will test three hypotheses:

Hypothesis 1: Compared to their healthy peers, students with chronic illness will report higher levels of anxiety and experiential avoidance in addition to lower levels of QoL and committed action.

Hypothesis 2: Anxiety will be associated with higher levels of experiential avoidance and lower levels of committed action and QoL.

Hypothesis 3: Experiential avoidance and committed action will sequentially mediate the relationship between anxiety and QoL when examined separately for both groups of students.

Chapter 2: Methods

2.1 Procedure and Participants

Approval was obtained from the United Arab Emirates University Research Ethics Committee prior to the collection of data. Participants were recruited through a combination of convenience and snowball sampling methods. Participants were recruited from the student bodies of two higher education institutions in Egypt and the United Arab Emirates. Students were invited to participate and, in turn, were requested to distribute the study survey via their social networks. A minimum age of 18 was a requirement for inclusion in the sample. Additionally, the sample included both female and male students as well as undergraduate and graduate students. While students were requested to indicate on the survey whether they had a chronic illness, this was not an a priori requirement for participation.

Through an electronically administered survey, potential participants were provided with background information about the study, the rights of participants and the responsibilities of the research team, and information related to the study's ethical conduct (e.g., measures employed to ensure confidentiality of data, the right to withdraw, anonymity, and voluntary participation). The online survey included an informed consent form where participants indicated their consent to participate in the study before being directed to the questionnaires.

2.2 Measures

2.2.1 Demographic Information Questionnaire

Participants self-reported their demographic data which included age, gender, country of residence, and educational level. Medical information was also obtained regarding medical diagnoses if there were any (Appendix A).

2.2.2 The Acceptance and Action Questionnaire-II (AAQ-II)

The AAQ-II (Bond et al., 2011) is a 7-item self-report scale that measures experiential avoidance. Using a 7-point scale, participants were asked to rate their responses from "1=Never true" to "7=Always true" where higher total scores represented

greater levels of experiential avoidance. Examples of the scale's items include "My painful memories prevent me from having a fulfilling life" and "Worries get in the way of my success". Previous studies demonstrated good internal consistency (Cronbach's $\alpha=.84$) and predictive validity for the instrument (Bond et al., 2011; Masuda et al., 2017) (Appendix B).

2.2.3 The Committed Action Questionnaire-8 (CAQ-8)

The CAQ-8 (McCracken et al., 2015) (Appendix C) is an 8-item scale used to assess levels of committed actions. Participants rated how much they agree with statements that concern their ability to persist with goal-guided behaviors (e.g., "I prefer to change how I approach a goal rather than quit" and "When a goal is difficult to reach, I am able to take small steps to reach it"). Their responses were rated on a 7-point scale ranging from "0=Never true" to "6=Always true". Higher total scores reflected greater committed action in participants. The existing literature has shown that the scale possesses adequate internal consistency (McCracken et al., 2015; Yu et al., 2022).

2.2.4 The Depression, Anxiety, and Stress Scale-21 (DASS-21)

The DASS-21 (Lovibond & Lovibond, 1995) is a self-report scale designed to assess depression, anxiety, and stress. Responses are rated on a 4-point scale that ranges from "0=Did not apply to me at all" to "3=Applied to me most of the time". Participants' responses indicated the degree to which they experienced the symptoms described in each statement within the past week. In this study, only the anxiety subscale was analyzed. The subscale included statements such as "I felt I was close to panic" and "I felt scared without any good reason". The instrument's subscales have shown good internal consistency with a Cronbach's α of .82 for the anxiety subscale (Lovibond & Lovibond, 1995) (Appendix D).

2.2.5 The World Health Organization Brief Quality-of-Life Assessment Scale (WHOQOL-BREF)

The WHOQOL-BREF (The WHOQOL Group, 1998) (Appendix E) is an abbreviated version of the WHOQOL-100. It is a 26-item scale that measures four domains of QoL: physical health, psychological well-being, social relationships, and

environment. It also includes items that assess overall QoL and general health (e.g., “How would you rate your quality of life?” and “How satisfied are you with your health?”). Responses are rated using a 5-point scale ranging from “1=Extreme dissatisfaction” to “5=Extreme satisfaction”. Higher scores reflect greater levels of self-perceived QoL. Based on available evidence, the instrument appeared to have acceptable discriminant validity, content validity, internal consistency, and test-retest reliability (The WHOQOL Group, 1998).

2.3 Data Analysis

Analyses were conducted following a number of predetermined steps. First, preliminary analyses were conducted to describe the sample’s data, including both descriptive data pertaining to the sample’s demographic variables as well as descriptive data of the principal study variables. This was achieved by computing means and standard deviations for continuous variables or counts and percentages for categorical variables. Then, the sample was stratified according to the presence or absence of a self-reported chronic illnesses, and this was used as a grouping variable to run comparative analyses for each of the study’s principal variables (i.e., anxiety, experiential avoidance, committed action, and QoL). T-tests and the resultant accompanying p-values were used to make this determination.

As a preliminary investigation of the association between the study’s variables, a correlational matrix was produced in which bivariate correlations were computed. Pearson’s r values and its accompanying p-values were generated to reflect these associations. Analyses were computed separately for the two subgroups stratified by the presence or absence of a chronic illness.

Finally, a serial mediation model was examined in which the potential mediational effect of two simultaneous mediators, experiential avoidance and committed action, in the association between anxiety (the predictor variable) and QoL (the dependent variable) was investigated. The proposed model is illustrated in Figure 1. The direct effect of anxiety (x) on QoL (y) is denoted as c' . The indirect effect of anxiety on QoL through experiential avoidance (mediator 1) is denoted as a_1b_1 while the serial indirect effect of x on y through both mediators is denoted as $a_1d_1b_2$. Descriptive and

correlational analyses were conducted using SPSS Version 26 and the mediation analyses were conducted using the PROCESS Macro Version 3.5 (Hayes, 2013). A significance level of $p < .05$ was regarded as indicative of statistical significance.

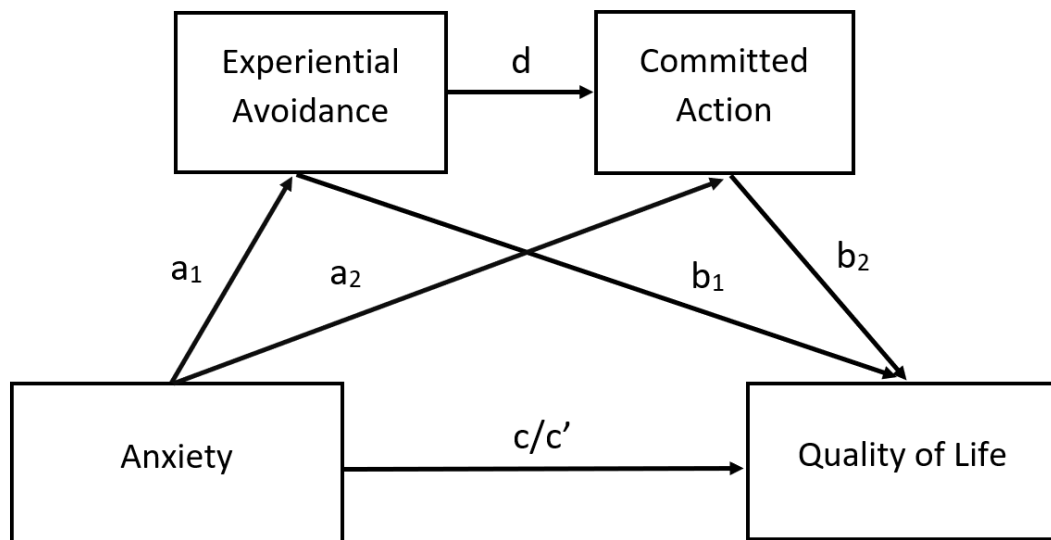


Figure 1: Proposed mediation model in which experiential avoidance (mediator 1) and committed action (mediator 2) sequentially mediate the association between anxiety (predictor) and quality of life (dependent variable).

Chapter 3: Results

3.1 Sample Descriptive Results

Participants ($N= 547$) were university students in the Arab region. The study included two samples: one for healthy students and one for chronically ill students. The participants' ages ranged from 18 to 63 years.

The healthy sample consisted of 443 participants, 344 females (77.7%) and 99 males (22.3%), with a mean age of 20.98 years ($SD=4.52$). The majority were undergraduate students ($n=369$; 83.3%) while the rest were graduate students ($n=74$; 16.7%). Most responses were from students in Egypt ($n=263$; 59.4%) followed by Oman ($n=144$; 32.5%), United Arab Emirates ($n=18$; 4.1%), Saudi Arabia ($n=17$; 3.8%), and Yemen ($n=1$; .2%).

The chronically ill sample was composed of 104 participants, 92 females (88.5%) and 12 males (11.5%), with a mean age of 22.31 ($SD=6.276$). Most of the participants were undergraduate students ($n=83$; 79.8%) and the rest were graduate students ($n=21$; 20.2%). They resided in Egypt ($n=70$; 67.3%), Oman ($n=21$; 20.2%), Saudi Arabia ($n=7$; 6.7%), and United Arab Emirates ($n=6$; 5.8%).

The most commonly reported chronic illnesses in the chronically ill sample were sinusitis (24.03%), allergic disease (22.49%), asthma (11.63%), and chronic gastritis (7.75%). 21 (20.19%) of the chronically ill students reported more than one diagnosis. The chronic health condition presented by the participants are depicted in Table 1.

3.2 Descriptive Analyses of Study Variables

Descriptive statistics were computed for the four principal variables with reference to both the total sample as well as the two stratified subsamples, those with a self-reported chronic illness and those without. These analyses revealed statistically significant differences between the two subsamples in relation to anxiety, QoL, and experiential avoidance. Compared to healthy students, chronically ill students reported lower levels of QoL ($t(545)=3.35$, $p<.001$) and higher levels of anxiety ($t(545)=-4.74$, $p<.001$) and experiential avoidance ($t(544)=-3.37$, $p<.001$). As for committed action, there were no significant differences between healthy and chronically ill students

Table 1: Chronic illnesses presented by participants

Illness	Frequency	Percentage %
Sinusitis	31	24.03
Allergic disease	29	22.49
Asthma	15	11.63
Chronic gastritis	10	7.75
Polycystic ovary syndrome	7	5.43
Sickle cell anemia	7	5.43
Diabetes	5	3.88
Arthritis	3	2.33
Anemia	2	1.55
Chronic heart illness	2	1.55
Ulcers	2	1.55
Acid reflux	1	.78
Breast fibroid	1	.78
Cancer	1	.78
Chronic back illness	1	.78
Chronic pain	1	.78
Eczema	1	.78
Epilepsy	1	.78
Grave's disease	1	.78
Hereditary alopecia	1	.78
Hypothyroidism	1	.78
Immunodeficiency	1	.78
Irritable bowel syndrome	1	.78
Migraine	1	.78
Psoriasis	1	.78
Thalassemia	1	.78
Urticaria	1	.78

($t(545)=1.004, p>.001$). Table 2 below presents the means and standard deviations for both samples as well as the t -value and p -value of differences between them.

Table 2: Means (M) and standard deviations (SD) of self-report scales

	Total ($N=547$)		Healthy ($n=443$)		Chronically ill ($n=104$)		Test for differences	
	M	SD	M	SD	M	SD	t -value	p -value
Anxiety	7.99	5.01	7.51	4.85	10.04	5.17	-4.743	<.001
Quality of life	83.05	15.07	84.08	14.98	78.63	14.73	3.350	<.001
Experiential avoidance	24.35	9.23	23.71	9.21	27.06	8.83	-3.365	<.001
Committed action	26.66	7.32	26.81	7.26	26.01	7.60	1.004	.316

3.3 Correlational Analyses

For the healthy sample, correlational analyses (illustrated in Table 3) showed that anxiety was moderately and positively correlated with experiential avoidance ($r = .577, p < .001$) and negatively associated with QoL ($r = -.510, p < .001$) and committed action ($r = -.285, p < .001$). Also, results demonstrated that experiential avoidance was moderately and negatively linked with QoL ($r = -.591, p < .001$) and committed action ($r = -.495, p < .001$). Furthermore, committed action was moderately and positively linked with QoL ($r = .485, p < .001$).

Identical outcomes were observed in the chronically ill sample. Anxiety was positively associated with experiential avoidance ($r = .458, p < .001$) and negatively associated with QoL ($r = -.480, p < .001$) and committed action ($r = -.320, p < .001$). Moreover, experiential avoidance was negatively correlated with QoL ($r = -.347, p < .001$) and committed action ($r = -.540, p < .001$). It was also shown that committed action was positively related to QoL ($r = .356, p < .001$).

Table 3: Bivariate correlations between the principal study variables

	1	2	3	4
1. Anxiety	-	-.510**	.577**	-.285**
2. Quality of Life	-.480**	-	-.591**	.485**
3. Experiential Avoidance	.458**	-.347**	-	-.495**
4. Committed action	-.320**	.356**	-.540**	-

Note: Healthy sample results are presented above the diagonal and chronically ill sample results are presented below the diagonal.

3.4 Mediation Results

Mediation analyses were conducted separately for the two subsamples, depicted in Figure 2 and Figure 3, and are presented in turn below. First, with reference to the sample without a chronic illness, path a_1 (the association between anxiety and mediator 1 – experiential avoidance) was significant; so too was path b_1 , as well as the association between the two mediators (path d). Path a_2 (reflective of the association between anxiety and mediator 2, committed action) was not significant, however, path b_2 (the association between mediator 2 and the outcome variable, QoL) was significant. When the total effect model was computed (path c), it revealed that the total effect of anxiety on QoL was significant ($\beta = -1.58$, $SE = .13$, $CI [-1.83, -1.32]$). The direct effect of the predictor on the outcome variable, path c' , which assesses the effect of anxiety on QoL when including the combined effect of both mediators was similarly significant ($\beta = -.78$, $CI [-1.05, -.51]$, $p < .001$). However, examination of the indirect effects of each mediator revealed only mediator 1 contributed to the significant direct effect of the examined association: anxiety \rightarrow experiential avoidance \rightarrow QoL ($\beta = -.57$, $SE = .10$, $CI [-.77, -.39]$). Mediator 2 (anxiety \rightarrow committed action \rightarrow QoL) was not significant ($\beta = .003$, $SE = .04$, $CI [-.08, .09]$), thus, indicating a partial mediational model that appears to result from experiential avoidance rather than committed action (See Table 4).

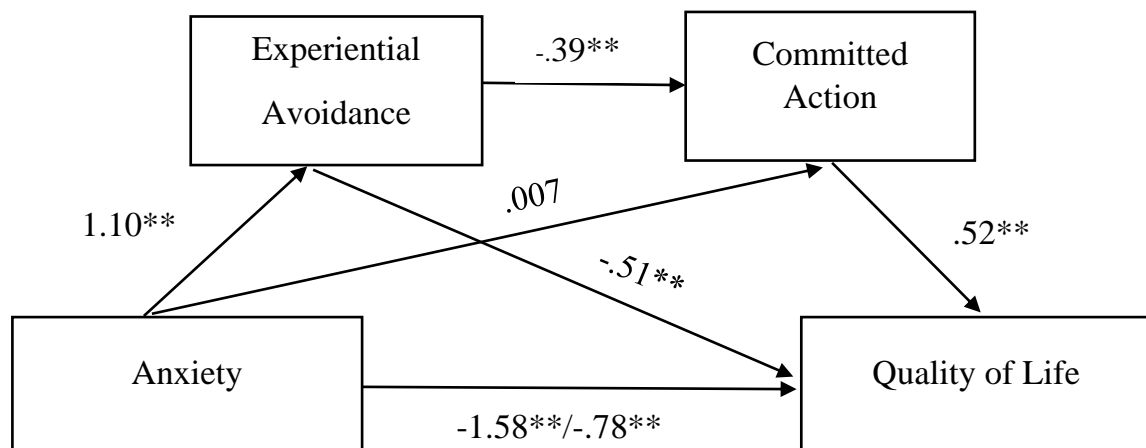


Figure 2: Beta coefficients of each path of the tested model: Healthy sample. Note. ** $p < .001$.

With reference to the chronically ill sample, the following emerged from computation of the serial mediational model. Anxiety was significantly associated with experiential avoidance (path a_1) and both mediators were significantly associated with each other (path d). Paths a_2 (anxiety and committed action), b_1 (experiential avoidance to QoL), and b_2 (committed action to QoL) were all not significant. Despite the preponderance of nonsignificant paths in the prespecified model, the total effect of anxiety on QoL was statistically significant ($\beta = -1.36$, $SE = .13$, $CI [-1.85, -.86]$). Examination of all the indirect paths contained in the tested model were not significant: first, anxiety \rightarrow experiential avoidance \rightarrow QoL ($\beta = -.06$, $SE = .18$, $CI [-.39, .33]$); anxiety \rightarrow committed action \rightarrow QoL ($\beta = -.05$, $SE = .07$, $CI [-.22, .06]$); and anxiety \rightarrow experiential avoidance \rightarrow committed action \rightarrow QoL ($\beta = -.12$, $SE = .09$, $CI [-.33, .01]$).

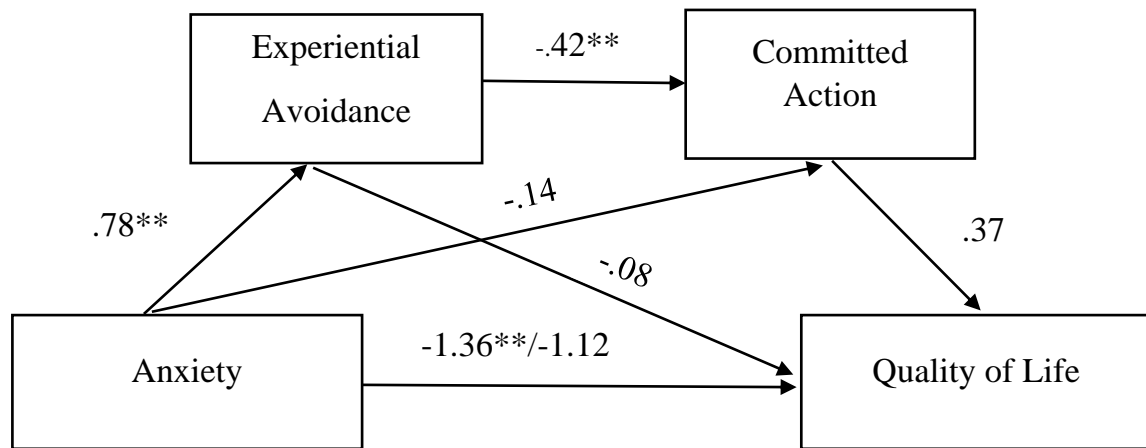


Figure 3: Beta coefficients of each path of the tested model: Chronically ill sample.

Note. $^{**}p < .001$.

Chapter 4: Discussion and Conclusions

In the current study, the mediating effects of experiential avoidance and committed action on the relationship between anxiety and QoL were investigated. Additionally, the occurrence of these relationships in students with and without chronic illness were compared. It was hypothesized that chronically ill students will report greater anxiety and experiential avoidance as well as lower QoL and committed action than their healthy peers. It was also expected that anxiety would be linked with higher levels of experiential avoidance and lower levels of committed action and QoL. Experiential avoidance and committed action were predicted to have mediating effects on the relationship between anxiety and QoL for students with and without chronic illness.

4.1 Summary and Explanation of Results

As predicted, the study determined that students with a chronic illness reported higher levels of anxiety and experiential avoidance than students without a chronic illness. Perceived QoL demonstrated to be lower in students with a chronic illness when compared to their healthy peers. These results demonstrate that poorer psychological functioning and adjustment in chronically ill students is evident and this, to some extent, is expected when considering the stressors and disturbances that are caused by their health conditions. Nonetheless, despite having different levels of experiential avoidance, no significant difference was found between the two groups in terms of committed action. Although previous research has reported lower levels of committed action in chronically ill patients compared to healthy individuals (Matos-pina et al., 2022), this finding was in line with other studies conducted with the two groups (Castro et al., 2021; Coutinho et al., 2021). This suggests that low experiential avoidance does not necessarily make engaging in committed action easier. Other factors are likely to have a bigger impact on performing valued activities. Previous studies reported a negative relationship between committed actions and illness severity suggesting that the more intense and disabling the condition is, the more difficult it is to persist with valued living (Galán et al., 2019; Wong et al., 2016). It can be possible that participants in the current did not experience high levels of illness severity which may explain why their conditions did not

impact their engagement in committed action. Another point to consider is that, according to Hayes et al. (2012), knowing and living according to values are two interlaced aspects that make up the overall engaged action. Hence, the authors believe that in order to fully engage in valued actions, individuals need to have a clarity of values. Clarity of values describes the degree to which individuals are aware of their chosen values and are able to express them (Hayes et al., 1999). In their study, Chase and colleagues (2013) demonstrated the benefits of values clarifying exercises in improving students' engagement in valued action. Their results suggest that committed action alone without an understanding of one's values is likely to have no impact on functioning. Therefore, it should be important to consider the impact of values clarity on one's ability to behave according to valued goals.

Consistent with and in confirmation of hypothesis 2 and past research (Coutinho et al., 2021), results from both groups showed that anxiety was negatively linked with QoL and committed action and positively associated with experiential avoidance. There was also a negative relationship between experiential avoidance and both committed action and QoL for both groups. Furthermore, committed action and QoL were positively linked in students with and without chronic illness. In line with the existing literature, these findings provide further evidence for the adverse effects of experiential avoidance on psychological health (Corman et al., 2021; Han et al., 2021; Trindade et al., 2018). They indicate that choosing to cope with painful internal experiences, rather than trying to control or avoid them, has a more positive impact on psychological wellbeing. This attests to the significance of promoting acceptance as an adaptive coping style for painful private events. That explains why acceptance-based therapies, such as ACT, are useful in reducing the negative impact of experiential avoidance. ACT helps in relieving suffering by aiding individuals accept thoughts, feelings, or bodily sensations and view their thoughts as events that does not need to be believed or followed as well as act in accordance with their values and lead a meaningful life (McCracken, 2005).

It is interesting to note that the pattern of correlations between the study variables was identical in both groups. Such outcome indicates that the relationships between anxiety, QoL, experiential avoidance, and committed action are robust enough correlations that they remain significant regardless of an individual's characteristics.

Further, it highlights the importance of addressing experiential avoidance and committed action in both healthy and chronically ill students.

Path analysis results showed that experiential avoidance and committed action partially mediated the impact of anxiety on QoL in healthy students which was in alignment with previous research by Coutinho and colleagues (2021). It was shown that anxiety leads to an increase in attempt to avoid aversive thoughts and feelings which makes it harder to perform valued activities. This inability to create a meaningful life that one wish and long for explains the detrimental effects of anxiety on QoL. The results also provide more support for the psychological flexibility theory that stresses on the importance of fully accepting and contacting the present moment while striving towards personally meaningful goals to live an ideal life which relates to better psychological health outcomes (Hayes et al., 2006). While it was expected that similar results will be observed in both groups, the mediating effects of the two processes were not observed in students with chronic illness. Although it is possible for further studies to refute this result, this can suggest that the relationship is influenced by mediators other than experiential avoidance and committed action in chronically ill individuals. Studies examining mediators of the relationship with this population are scarce, but one other potential mediator that has been identified between anxiety and QoL was somatic symptoms (Murphy et al., 2017). However, considering the strong associations observed between acceptance, cognitive defusion, and lack of values clarity with the psychological functioning of chronically ill individuals (Castro et al., 2021; Kibbey et al., 2020; Merwin et al., 2021), these ACT processes may demonstrate mediating effects on the relationship in this population.

The findings of the study are relatively novel due to the lack of ACT research in the Arab region. While Hemaïd et al. (2016) had previously assessed experiential avoidance levels in Palestinians, this study is the first to also assess committed action in Arab populations. Three recent studies have examined using ACT with Saudi (Bahattab & AlHadi, 2021), Egyptian (El Ashry et al., 2021), and Jordanian participants (Katatbh, 2021) and demonstrated its effectiveness in producing favorable outcomes for different psychological disorders. This study brings attention to other areas of concern through which the effectiveness of ACT can be further tested in this population.

4.2 Limitations

There are a couple of limitations that require consideration when interpreting the results of the study. First, the study was cross-sectional which does not allow for casual relationships between the variables to be determined. Second, the study variables were assessed using self-report measures which compromises the reliability of the data. The participants' chronic illnesses were also self-reported so it was not possible to confirm their diagnoses. Third, participants in the chronically ill sample presented a diverse set of diagnoses, however, the study lacked a measure of illness severity or perceived disability. Therefore, it was not possible to confirm whether their health conditions had an impact on their psychological health.

4.3 Recommendations

Future research studies should utilize longitudinal or experimental designs to allow inferring causal relations between the studied variables. Using non-self-report measures or asking participants to complete questionnaires on-site may help in decreasing bias and increasing confidence in the reliability of data. Recruiting from medical settings can be helpful in obtaining physician-confirmed diagnoses as well as an objective evaluation of illness severity. Also, including a measure of values clarity may be useful. Research examining potential mediators between anxiety and QoL in chronically ill students is also warranted. Moreover, such studies should focus on examining variations of diagnoses to ensure the generalizability of the results across all chronically ill patients. There would also be merit in comparing the experiences of those with physical chronic conditions and mental chronic conditions. Studies exploring the relationship between committed action and clarity of values can be useful as well. In addition, more research should focus on the needs of students with chronic illnesses and identify ways in which universities can assist them. It would also be interesting to examine and compare the effects of using ACT with chronically ill students and their healthy peers.

4.4 Implications

Findings of the current study have theoretical and practical relevance. They provide a better understanding of the psychological consequences of chronic health conditions which can help identify vulnerable students who may benefit from extra care and support. They also highlight the importance of addressing the difficulties experienced by this group. Also, the need for policies that ensure the availability of mental health services for these students along with academic accommodations should be emphasized. More interventions focusing on the unique challenges of students with chronic illnesses should be developed and offered in universities. As the study generalizes previous findings across Arab students, it indicates that using ACT processes is appropriate for explaining the impact of anxiety on QoL across populations. It also informs clinicians of ACT's potential in improving the psychological wellbeing of chronically ill patients in the Arab region. Additionally, it points out possible treatment goals for clinicians to target while working with this population.

4.5 Conclusion

The present study offers further evidence to the influence of experiential avoidance and committed action on how anxiety impacts QoL. It also generalizes previous findings across students in the Arab region and have important implications for research and practice. Nevertheless, it must be noted that the mediating effects of the two ACT processes were not observed in students with chronic illness. This calls attention to the need for more research studies identifying the variables that impacts this population and the ways in which they can be supported.

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Appendices

Appendix A

Demographic Information Questionnaire

Sex:

- Male
- Female

Age:

Country of residence:

- Egypt
- Oman
- Saudi Arabia
- United Arab Emirates

Educational level:

- Undergraduate student
- Graduate student

Any chronic illness diagnosed by a doctor?

- Yes
- No

If you answered the previous question with yes, please check the health conditions that you suffer from

- Asthma
- Diabetes
- Epilepsy
- Cancer
- Inflammatory bowel disease (IBD)
- Hypothyroidism
- Psoriasis
- Eczema
- Coeliac disease
- Arthritis
- Sinusitis
- Chronic gastritis
- Endometriosis
- Multiple sclerosis
- Allergic rhinitis
- Sickle cell anaemia
- Polycystic ovary syndrome
- Lupus erythematosus

Erythematous

Other (please specify): _____

Appendix B

The Acceptance and Action Questionnaire-II

Below you will find a list of statements. Please rate how each statement is for you by selecting one of the responses below it.

1. My painful experiences and memories make it difficult for me to live a life that I would value.

never true	very seldom true	seldom true	sometimes true	frequently
true	always true			
2. I'm afraid of my feelings.

never true	very seldom true	seldom true	sometimes true	frequently
true	always true			
3. I worry about not being able to control my worries and feelings.

never true	very seldom true	seldom true	sometimes true	frequently
true	always true			
4. My painful memories prevent me from having a fulfilling life.

never true	very seldom true	seldom true	sometimes true	frequently
true	always true			
5. Emotions cause problems in my life

never true	very seldom true	seldom true	sometimes true	frequently
true	always true			
6. It seems like most people are handling their lives better than I am.

never true	very seldom true	seldom true	sometimes true	frequently
true	always true			
7. Worries get in the way of my success.

never true	very seldom true	seldom true	sometimes true	frequently
true	always true			

Appendix C

The Committed Action Questionnaire-8

Below you will find a list of statements. Please rate the truth of each statement as it applies to you by selecting a response below it.

1. I can remain committed to my goals even when there are times that I fail to reach them
never true very rarely true seldom true sometimes true often true almost always true always true
2. When a goal is difficult to reach, I am able to take small steps to reach it
never true very rarely true seldom true sometimes true often true almost always true always true
3. I prefer to change how I approach a goal rather than quit
never true very rarely true seldom true sometimes true often true almost always true always true
4. I am able to follow my long term plans including times when progress is slow
never true very rarely true seldom true sometimes true often true almost always true always true
5. I find it difficult to carry on with an activity unless I experience that it is successful
never true very rarely true seldom true sometimes true often true almost always true always true
6. If I feel distressed or discouraged, I let my commitments slide
never true very rarely true seldom true sometimes true often true almost always true always true
7. I get so wrapped up in what I am thinking or feeling that I cannot do the things that matter to me
never true very rarely true seldom true sometimes true often true almost always true always true

8. If I cannot do something my way, I will not do it at all

never true very rarely true seldom true sometimes true often true almost
always true always true

Appendix D

Depression, Anxiety and Stress Scale - 21

Please read each statement and select a response which indicates how much the statement applied to you over the past week.

1. I was aware of dryness of my mouth
did not apply to me at all

applied to me to some degree, or some of the time

applied to me to a considerable degree or a good part of time

applied to me very much or most of the time
2. I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion)
did not apply to me at all

applied to me to some degree, or some of the time

applied to me to a considerable degree or a good part of time

applied to me very much or most of the time
3. I experienced trembling (e.g. in the hands)
did not apply to me at all

applied to me to some degree, or some of the time

applied to me to a considerable degree or a good part of time

applied to me very much or most of the time
4. I was worried about situations in which I might panic and make a fool of myself
did not apply to me at all

applied to me to some degree, or some of the time

applied to me to a considerable degree or a good part of time

applied to me very much or most of the time

5. I felt I was close to panic
did not apply to me at all
applied to me to some degree, or some of the time
applied to me to a considerable degree or a good part of time
applied to me very much or most of the time
6. I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat)
did not apply to me at all
applied to me to some degree, or some of the time
applied to me to a considerable degree or a good part of time
applied to me very much or most of the time
7. I felt scared without any good reason
did not apply to me at all
applied to me to some degree, or some of the time
applied to me to a considerable degree or a good part of time
applied to me very much or most of the time

Appendix E

World Health Organization Brief Quality-of-Life Assessment Scale (WHOQOL-BREF)

Please read each question, assess your feelings, and select a response for each question that gives the best answer for you.

1. How would you rate your quality of life?
very poor poor neither poor nor good good very good
2. How satisfied are you with your health?
very dissatisfied dissatisfied neither satisfied nor dissatisfied satisfied
very satisfied

The following questions ask about how much you have experienced certain things in the last two weeks.

3. To what extent do you feel that physical pain prevents you from doing what you need to do?
not at all a little a moderate amount very much an extreme amount
4. How much do you need any medical treatment to function in your daily life?
not at all a little a moderate amount very much an extreme amount
5. How much do you enjoy life?
not at all a little a moderate amount very much an extreme amount
6. To what extent do you feel your life to be meaningful?
not at all a little a moderate amount very much an extreme amount
7. How well are you able to concentrate?
not at all a little a moderate amount very much an extreme amount
8. How safe do you feel in your daily life?
not at all a little a moderate amount very much an extreme amount

9. How healthy is your physical environment?
not at all a little a moderate amount very much an extreme amount

The following questions ask about how completely you experience or were able to do certain things in the last two weeks.

10. Do you have enough energy for everyday life?
not at all a little moderately mostly completely

11. Are you able to accept your bodily appearance?
not at all a little moderately mostly completely

12. Have you enough money to meet your needs?
not at all a little moderately mostly completely

13. How available to you is the information that you need in your day-to-day life?
not at all a little moderately mostly completely

14. To what extent do you have the opportunity for leisure activities?
not at all a little moderately mostly completely

15. How well are you able to get around?
very poor poor neither poor nor good good
very good

The following questions ask you to say how good or satisfied you have felt about various aspects of your life over the last two weeks.

16. How satisfied are you with your sleep?
very dissatisfied dissatisfied neither satisfied nor dissatisfied satisfied
very satisfied

17. How satisfied are you with your ability to perform your daily living activities?
very dissatisfied dissatisfied neither satisfied nor dissatisfied satisfied
very satisfied

18. How satisfied are you with your capacity for work?
very dissatisfied dissatisfied neither satisfied nor dissatisfied satisfied
very satisfied

19. How satisfied are you with yourself?
very dissatisfied dissatisfied neither satisfied nor dissatisfied satisfied
very satisfied

20. How satisfied are you with your personal relationships?
very dissatisfied dissatisfied neither satisfied nor dissatisfied satisfied
very satisfied

21. How satisfied are you with the support you get from your friends?
very dissatisfied dissatisfied neither satisfied nor dissatisfied satisfied
very satisfied

22. How satisfied are you with the conditions of your living place?
very dissatisfied dissatisfied neither satisfied nor dissatisfied satisfied
very satisfied

23. How satisfied are you with your access to health services?
very dissatisfied dissatisfied neither satisfied nor dissatisfied satisfied
very satisfied

24. How satisfied are you with your transport?
very dissatisfied dissatisfied neither satisfied nor dissatisfied satisfied
very satisfied

The following question refers to how often you have felt or experienced certain things in the last two weeks.

25. How often do you have negative feelings such as blue mood, despair, anxiety, depression?
Never seldom quite often very often always

Appendix F

Consent Form

Title of the project: The Effect of Experiential Avoidance and Committed Action in the Relationship Between Anxiety and Quality of Life in Chronically Ill and Healthy Students

Purpose of study

The impact of anxiety on quality of life among college students appears to be influenced by levels of experiential avoidance and committed action. However, this has yet to be examined with higher education students across different cultures and languages. Therefore, this project aims to study the role of experiential avoidance and committed action on the relationship between anxiety and quality of life among students from Arab universities. Moreover, it aims to examine students with and without chronic illness to determine the differences between the two groups in terms of the occurrence of these relationships.

What will happen to the results of the study?

It is intended that the results of the study will be reported at scientific meetings and published in relevant research journals. However, all information collected will be treated confidentially.

Participation in the project

This project will involve completing measures of psychological well-being and related psychological constructs. The survey should take about 15 minutes to complete. All anonymised demographic data will be used for descriptive purposes. Data you provide in response to questionnaires will be used to test the study hypotheses. The project does not carry any risk beyond that experienced in everyday life. Participation is entirely voluntary and you have the right to withdraw at any time.

Contact for further information

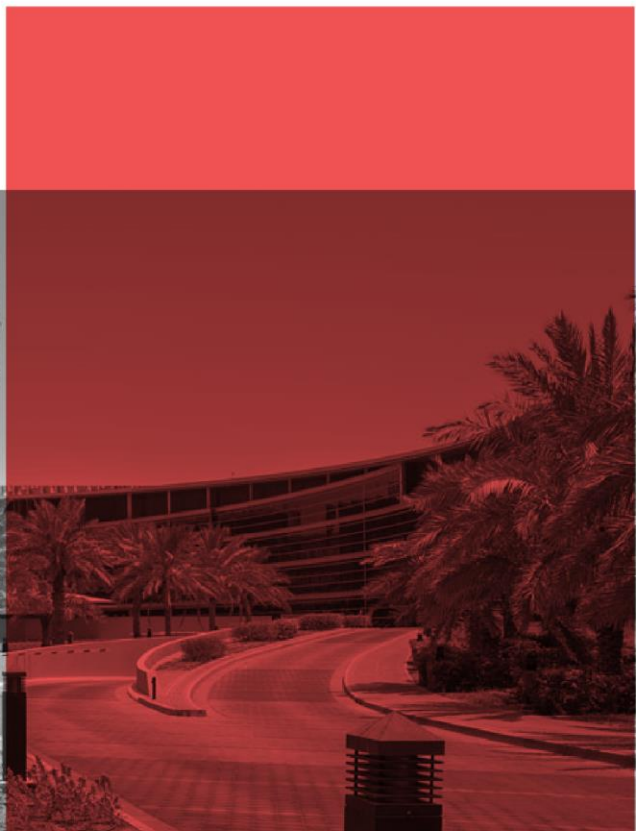
Rufaida AlKhanji (202070026@uaeu.ac.ae)

I have read the above information and I understand what my role will be in this research. I understand that I am free to withdraw from the project at any time and I can ask any questions at any time. I understand what will happen to the data collected from me for the research.

If you agree to take part in this research, please provide your consent by ticking here: ☐

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جامعة الإمارات العربية المتحدة
United Arab Emirates University



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This thesis explores the mediating effects of experiential avoidance and committed action on the relationship between anxiety and quality of life in Arab universities students. It also examines and compares the occurrence of the studied relationships in students with and without chronic illness. It highlights the psychological difficulties of students with chronic illness and emphasizes the importance of university programs addressing their concerns.

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