



MENTAL HEALTH AND DECISION-MAKING AMONG URBANISES AND BEDOUINS IN KUWAIT

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Abstract

This Mental health issues such as anxiety, depression, and stress are present in our lives at any stage, and they may range from mild to severe. If we cannot deal with them, it is considered an obstacle and affects our personal or professional lives. This study investigates the relationships between anxiety, depression, and stress, and their effects on decision-making among urban and Bedouin Kuwaitis, focusing on participants' cultural background (urbanises or bedouins), age, gender, marital status, and education level. A sample of 283 participants was surveyed using standardized questionnaires to assess levels of anxiety, depression, and stress using Depression Anxiety Stress Scales (DASS). Decision-making styles were evaluated using The Melbourne Decision Making Questionnaire contained 190=urbanises and 94= bedouins. Data were collected from Social media platforms and WhatsApp in Kuwait for two months. No significant differences were found between males and females or between Bedouins and urbanites on the DASS and ADMQ scales. Moreover, educational level significantly influences mental health, with individuals holding university degrees exhibiting lower levels of depression, anxiety, and stress compared to those with only secondary education. The strong positive correlations between DASS and ADMQ scores indicate that higher levels of depression, anxiety, and stress are linked to increased anxiety symptoms and impaired decision-making abilities.

Keywords: *Bedouins, Urbanises, anxiety, depression, stress, decision-making.*

1. INTRODUCTION

In today's world, where stress, anxiety, and depression are pervasive, their impact on individuals' lives is increasingly significant, particularly as they relate to decision-making. Indeed, numerous studies have identified a direct negative correlation between stress, depression, anxiety, and decision-making (Ajilchi & Nejati, 2017; Bishop & Gagne, 2018; Cáceda et al., 2014; Morgado et al., 2015; Yu, 2016). In fact, the magnitude of the challenge posed by depression and anxiety is evident in their prevalence. Globally, data collected from 1980 to 2013 indicate that anxiety is the most prevalent mental disorder, affecting 7.3% of the global population, followed by depression, estimated to impact 5.5% of the world's population (Steel et al., 2014). More recent data from 2015 show that depression

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affects 4.4% of the global population, while only 3.6% experience anxiety (WHO, 2017). Moreover, regional data suggest that 16% of the population in the Eastern Mediterranean region suffers from depression and 12% experiencing anxiety (WHO, 2017). Specifically, in Kuwait, a study conducted by Alkhadhari et al. (2016) to measure the prevalence of psychological problems in primary health clinics revealed that 20.5% of participants suffer from anxiety disorders, followed by 14.7% experiencing depression.

The education system in Kuwait has four levels, starting from pre-school to higher education. Children at the age of 4 start their education in kindergarten school, and it takes 2 years. At the age of 6, they move into primary school, and the duration of the programme is 5 years. Secondary is the next level; they are accepted at the age of 11 after they complete this level, they move into secondary education, and the length of this programme is 4 years. The last school system in Kuwait is high school, and it contains 3 years based on their grades at this level, they may and may not move to higher education. In Kuwait, there are two types of schools and universities, either private or public.

To our knowledge, research about the impact of depression, anxiety, and stress on decision-making was never conducted in the Arabic region, including Kuwait, making this research very important.

2. LITERATURE REVIEW

2.1. DECISION-MAKING

Decision-making involves the process of assessing and selecting an option from a range of alternatives, considering the likelihood of future outcomes (Morgado et al., 2015; Scott & Bruce, 1995). This ubiquitous activity occurs whenever individuals are faced with choices, each carrying its own perceived value. These values represent the anticipated benefits or gains associated with each option, which are subjectively evaluated and are influenced by various factors, including uncertainty, costs, effort, timing, and social influences (Morgado et al., 2015).

In fact, Decision-making styles encompass various approaches and tendencies individuals adopt when faced with choices. Rational decision-making entails a systematic and logical approach, where individuals meticulously analyze available information and weigh potential consequences before reaching a conclusion. In contrast, intuitive decision-making relies on gut feelings, hunches, or instincts, often bypassing conscious deliberation or analysis. Dependent decision-making involves seeking guidance or input from others, prioritizing external opinions or recommendations over personal judgment when making decisions. Avoidant decision-making is characterized by procrastination or avoidance of decision-making altogether, often driven by the fear of making the wrong choice or experiencing adverse outcomes. Finally, spontaneous decision-making reflects a preference for impulsive or immediate decisions, made without extensive deliberation or consideration of alternatives. Each style influences how individuals

approach and navigate decision-making processes in various contexts (Scott & Bruce, 1995).

2.2 DEPRESSION, ANXIETY, AND STRESS

The 5th edition of the Diagnostic and Statistical Manual of Mental Disorders provides definitions for depression and anxiety disorders. Depression, firstly, can be defined as intense feelings of sadness or hopelessness persisting for more than a few days. This condition disrupts everyday functioning and may manifest in physical symptoms such as changes in weight, sleep disturbances, or diminished energy levels. Additionally, individuals with depression may struggle with concentration, feelings of inadequacy, and recurring contemplation of death or self-harm. The most common anxiety disorder is Generalized Anxiety Disorder (GAD), characterized by excessive worry and apprehension that permeate most days for at least six months. This worry extends to various aspects of life such as work or school performance. The emotional state is further amplified by at least three of the following physical or cognitive symptoms that are also prevalent for a significant portion of the past six months: restlessness, fatigue, difficulty concentrating, irritability, muscle tension, and sleep problems (American Psychiatric Association, 2013).

As for stress, it can be defined as a complex and multifaceted phenomenon, varying in interpretation across individuals and contexts. Initially proposed, stress is defined as the non-specific physiological and psychological response of the body to any demand, encompassing factors beyond emotional arousal or nervous tension. It encompasses both internal and external stimuli that trigger a cascade of biological and cognitive reactions, leading to heightened excitability or arousal, perception of aversiveness, and a sense of uncontrollability (Fink, 2010).

2.3 THE RELATIONSHIP BETWEEN DEPRESSION, ANXIETY, STRESS, AND DECISION-MAKING

The decision-making process hinges on taking actions to attain a positive outcome and evade a negative one, necessitating an evaluation of the value of potential outcomes and the requisite efforts to attain them (Bishop & Gagne, 2018). Hence, individuals grappling with depression, anxiety, and stress may undergo a distinct experience compared to their healthier counterparts in terms of assessing the value and efforts required for outcomes, potentially leading to biased decisions (Bishop & Gagne, 2018; Cáceda et al., 2014; Yu, 2016).

Yu's (2016) study underscored the direct correlation between stress and decision-making by introducing the Stress Induced Deliberation-to-Intuition (SIDI) model. This model posits that stress shifts decision-making from a deliberative, analytical process to a more intuitive, heuristic-based approach, which is more susceptible to biases. In essence, the brain allocates energy to the salience network, involved in threat detection, while the executive control network, responsible for reasoning and decision-making, receives fewer resources (Hermans et al., 2014). Moreover, even mild stressors, when beyond one's control, can swiftly diminish cognitive capabilities associated with the prefrontal cortex (PFC), such as planning, decision-making, and working memory. Prolonged exposure to stress can induce structural modifications in the PFC, particularly affecting dendrites vital for

receiving neuronal signals, thereby significantly contributing to a gradual decline in cognitive function (Arnsten, 2009; Morgado et al., 2015).

Anxiety and depression often lead to alterations in decision-making processes, resulting in impaired choices and behaviors (Bishop & Gagne, 2018). Cáceda et al. (2014) reported that individuals with mental illnesses, including depression and anxiety disorders, suffer from abnormalities in brain regions responsible for evaluating the value of outcomes, such as the prefrontal cortex and striatum. Bishop & Gagne (2018) suggested that according to computational models, anxiety could be related to increased responsiveness to potential threats, leading to a tendency towards risk aversion and excessive avoidance behaviors. Conversely, depression might be correlated with a decreased sensitivity to rewards, resulting in reduced motivation and a decline in participation in activities perceived as rewarding.

Further research indicates that individuals experiencing higher anxiety exhibit a reduced preference for taking control and making free choices, possibly due to a diminished belief in their ability to influence outcomes, prompting them to favor sticking with familiar options and avoid exploring potentially better choices (Zorowitz et al., 2021). Additionally, adults suffering from major depressive disorder were found to take longer to accumulate the information needed to make decisions, rendering them less proficient compared to healthy individuals (Lawlor et al., 2020).

2.4 GENDER, CULTURE, AND DECISION-MAKING

Gender differences in decision-making have been extensively investigated. Cornwall et al. (2018) found that males tend to prioritize reward magnitude over reward frequency to a greater extent than females. Moreover, Weafer & Wit (2014) discovered that males often struggle more with inhibiting prepotent responses compared to their female counterparts. Consequently, males typically exhibit a preference for larger and riskier rewards when confronted with decision-making tasks. For instance, in scenarios presenting a choice between a smaller, certain reward and a larger, riskier one, men generally gravitated towards the riskier option. This inclination was accompanied by distinct patterns of neural activation: men displayed heightened activity in reward-related brain regions such as the nucleus accumbens and ventral striatum, whereas women showed greater activation in areas associated with risk assessment and cognitive control, such as the dorsolateral prefrontal cortex and anterior cingulate cortex (Byrne & Worthy, 2016).

In terms of cultural background effect, Yates & De Oliveira (2016) explored the interplay between culture and decision making, unveiling key insights. They found that cultural values shape decision-making processes, with collectivist cultures prioritizing collaboration and consensus, contrasting with individualistic cultures emphasizing autonomy. Furthermore, variations in power distance influence decision dynamics, with high power distance cultures deferring to authority, while low power distance cultures adopt more egalitarian approaches. Cultural differences in uncertainty avoidance also impact risk perception, guiding decision-making behaviors. These cultural nuances extend to decision-making styles, highlighting the complexity of cultural influences and the need for culturally sensitive approaches.

2.5 BEDOUINES OF KUWAIT

The population of Kuwait is divided between fully urbanized citizens and Bedouins. The latter represent populations who originally inhabited the desert and lived a nomadic lifestyle centered around the raising and herding of livestock (Freer, 2021). Bedouins are characterized by cultural specifications that can put them at great risk of mental illness (Scull et al., 2014). For instance, Bedouins believe in traditional treatments to heal mental illness by performing healing rituals (Zangeneh & Al-Krenawi, 2019). Moreover, the family structure of Bedouins puts men in a privileged position, while women face multiple challenges such as poverty, lack of awareness, and limited access to healthcare facilities, making them more vulnerable to mental illness (Alfayumi-Zeadna et al., 2019). Furthermore, the family structure of Bedouins, characterized by polygamy, has been found to be associated with a higher prevalence of mental health problems among married females and among adolescents born into polygamous families (Elbedour et al., 2007; Rahmanian et al., 2021). Therefore, it is crucial to explore the association of anxiety, depression, and stress with decision-making among the Bedouins of Kuwait.

3. STUDY OBJECTIVE

The study aims to examine the relationship among anxiety, depression, and stress scale and adolescent decision-making scale among Bedouins and urbanites in Kuwaiti population. Also, the study seeks to explore gender differences in this relationship. In addition, the research intends to establish the differences in the mentioned scales among age categories and educational levels. Besides, the study investigates the predictor(s) of adolescent decision-making process.

4. METHODS:

4.1 PARTICIPANT

This study used a correlational research design. For two months data were collected from Social media platforms and WhatsApp. Kuwaiti Participants were reached by sending the survey to WhatsApp groups and posting tweets on Twitter (A social media platform), the reason for choosing the platform and what's app is it includes adults from different cultural backgrounds, those above 18 years old, and both females and males were included in the study. The inclusion criteria in the study should be Kuwaiti and above 18 years. It has excluded participants who filled out the questionnaire partially 12. The final sample contained 283 Kuwaiti participants (253 females, 31 males).

4.2 MATERIAL

The questionnaire contained three sections: socio-demographic, Depression, Anxiety, Stress Scales (DASS), and Melbourne Decision Making Questionnaire.

Socio-demographic: information on participants' cultural background (urbanites or bedouins), age, gender, marital status, and education level.

Depression, Anxiety, Stress: self-report Depression Anxiety Stress Scales (DASS) to measure emotional states of depression, anxiety and stress of Kuwaiti participants. DASS consists of 21 items totally and has three scales and each scale has 7 items. The questionnaire uses a 4-point Likert scale and it measures them over the past week. The 4 points from 0= Did not apply to me at all -NEVER, 1= Applied to me to some degree, or some of the time - SOMETIMES, 2= Applied to me to a considerable degree, or a good part of time - OFTEN, 3= Applied to me very much, or most of the time - ALMOST ALWAYS. The depression scale evaluates as hopelessness, self-deprecation, and anhedonia. The anxiety scale evaluates as situational anxiety and skeletal muscle effects. While the stress scale evaluates as nervous arousal, irritable/over-reactive, and difficulty relaxing. The sum of the items determines the scores for stress, anxiety, and depression. One of the scale items is "I was intolerant of anything that kept me from getting on with what I was doing". Arabic version of DASS-21 was used in the study.

Decision Making: The Melbourne Decision Making Questionnaire aims to evaluate people's approaches to making decisions. It has 22 items and 4 sub-scales: Vigilance as "I like to consider all of the alternatives", Hypervigilance as "Whenever I face a difficult decision I feel pessimistic about finding a good solution.", Procrastination as "I prefer to leave decisions to others", and Buck Passing as "Even after I have made a decision I delay acting upon it". 3-point rating response 'True for me' (score 2), 'Sometimes true' (score 1) and 'Not true for me' (score 0).

4.3 PROCEDURE

Participants were briefed about their participation in this study, and they agreed to participate and signed the consent form. Participants received a link to the study, including three parts; demographic information, mental health scale, and decision-making scale in a total of 43 items to answer. The study took 5-7 minutes to complete this questionnaire. Each participant was given the instructions listed below "After reading each of the following statements, mark the option that best fits your opinion in the response box. Answer truthfully, being sure to include everything." Anonymity and confidentiality were guaranteed. The study provided participants with the option to discontinue participation at any point, and their answers would remain unpublished. Using SPSS 22, data were examined by the hypothesis. Participants' scores were analyzed using Descriptive statistics, Pearson, T-Test, and Simple Regression.

5. RESULTS

The study aims to examine the relationship among anxiety, depression, and stress scale and adolescent decision-making scale among Bedouins and urbanites in Kuwaiti population. Also, the study seeks to explore gender differences in this relationship. In addition, the research intends to establish the differences in the mentioned scales among age categories and educational levels. Besides, the study investigates the predictor(s) of adolescent decision-making process.

Data Analysis

Data were analyzed using SPSS version 26. Descriptive statistics (mean and standard deviation) were performed. In addition, reliability analysis was tested to

check the reliability of standardized scales. T-Test matrix was carried out for gender differences, Pearson correlation was used to determine the correlation among the variables of the study, and simple regression analysis was undertaken to explore the predictor(s) of decision-making processes.

Sample Characteristics

Table 1 shows the demographic information of the participants. the sample consists of 283 participants. Most of participants were urbanites in Kuwait (around 67%), while about 33% were Bedouins.

Table 1 Sample Characteristics

Gender	N	(%)
Female	252	89
Male	31	11
Age		
18-29 years old	78	27.6
30-39 years old	85	30
40-49 years old	62	21.9
50-59 years old	44	15.5
≥ 60 years old	14	4.9
Social Category		
Urban	189	66.8
Bedouins	94	33.2
Education		
University	160	56.5
Postgraduate (Masters, PhD)	30	10.6
Diploma	56	19.8
Secondary school or below	37	13.1
Social Status		
Married	161	56.9
Unmarried	80	28.3
Separated/Divorced	36	12.7
Widowed	6	2.1

Psychometric Properties

The psychometric properties of both the Depression Anxiety Stress Scale (DASS) and Adolescent Decision-making Questionnaire (ADMQ) scale are discussed in Table 2. Depression Anxiety Stress Scale (DASS) has 21 items, where the mean score M= 42.47 (SD= 25.85). Adolescent Decision-making Questionnaire (ADMQ) scale has 22 items. Where the mean score M= 21.77 (SD= 4.79).

The questionnaire was tested for the internal consistency of its underlying constructs. Cronbach’s alpha is a standard measure of reliability. It is used to measure how much the items on a scale measure the same underlying construct. As shown in Table 2, DASS Cronbach’s alpha is 0.76, and it includes three subscales: Depression, Anxiety, and Stress. The Depression subscale has 7 items, with

Cronbach's alpha= 0.87. The Anxiety subscale has 7 items, with Cronbach's alpha= 0.81. The Stress scale has 7 items, with Cronbach's alpha= 0.86. The ADMQ scale has Cronbach's alpha= 0.85.

Table 2 Psychometric Properties

Variable	N	Mean	SD	Cronbach α
DASS	21	42.47	25.85	0.76
Depression	7	6.70	5.07	0.87
Anxiety	7	6.08	4.31	0.81
Stress	7	8.45	4.79	0.86
Decision Making	22	21.77	7.40	0.85

Abbreviations: N= number of items, SD= standard deviation, DASS= Depression Anxiety Stress Scale

Independent Sample T-test

Independent sample T-test is used to explore whether there is a difference between the means of two independent groups on a continuous dependent variable. In other words, the test is used to determine whether there is a statistically significant difference between these two groups. According to the aim of the study, T-test is used to determine whether there is a statistically significant difference between males and females and between Bedouins and urbanites on DASS and ADMQ scales. Tables 3 and 4 illustrate the results of T-test matrix. The test revealed that there is no statistically significant difference between males and females on both DASS and ADMQ scales. Similarly, the test indicated that there is no statistically significant difference between individuals living in Bedouin areas and urbanites on the same scales.

Table 3 T-test Matrix for Gender Differences

Variables	Females		Males		t	P (Sig.)	95% CL	
	M	SD	M	SD			LL	UL
DASS	21.55	12.88	18.65	13.19	1.18	0.75	-1.93	7.75
ADMQ	21.63	7.32	22.90	8.08	-0.90	0.37	-4.05	1.50

Table 4 T-test Matrix for Social Categories

Variables	Bedouins		Urbanites		t	P (Sig.)	95% CL	
	M	SD	M	SD			LL	UL
DASS	21.48	12.83	21.11	13.00	0.23	0.92	-2.85	3.58
ADMQ	20.87	7.66	22.22	7.25	-1.44	0.15	-3.18	0.49

One-way ANOVA Test

To test whether there is a statistically significant difference between the means of three or more independent groups, a one-way ANOVA test is conducted. Based on the aim of the study, a one-way ANOVA test was performed to compare the effect of educational levels and age on DASS and ADMQ scales. Based on the results in Table 5, a one-way ANOVA revealed that there was a statistically significant

difference in DASS score between at least two groups of educational levels, $F(3,279) = 3.69$, $P = 0.013$.

Table 5 One-way ANOVA for the Effect of Educational Levels on DASS scale

	N	Mean	Std. Deviation	95% Confidence Interval for Mean	
				Lower Bound	Upper Bound
Secondary school or below	37	26.59	16.532	21.08	32.11
University degree	160	20.10	12.396	18.16	22.04
Diploma	56	22.84	11.633	19.72	25.95
Postgraduate (Masters, PhD)	30	17.67	11.130	13.51	21.82
Total	283	21.23	12.924	19.72	22.75

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1795.069	3	598.356	3.69	.013
Within Groups	45305.539	279	162.385		
Total	47100.608	282			

To examine which groups were statistically significant, Tukey's HSD test was performed. Tukey's HSD test for multiple comparisons (see Table 6) explored that the mean value of DASS was statistically significant different between individuals possessing university qualifications and those with secondary school qualifications or below ($P = 0.03$, 95% CI = 0.49, 12.50) and between people with postgraduate degrees and those with secondary education or below ($P = 0.02$, 95% CI = 0.84, 17.02).

Table 6 Tukey's HSD for Mean Difference on DASS across Educational Levels

Multiple Comparisons

Dependent Variable: DASS

Tukey HSD

(I) Education	(J) Education	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Secondary school or below	University	6.495*	2.325	.03	.49	12.50
	Diploma	3.755	2.700	.506	-3.22	10.73
	Postgraduate (Masters, PhD)	8.928*	3.131	.02	.84	17.02
University	Secondary school or below	-6.495*	2.325	.028	-12.50	-.49
	Diploma	-2.739	1.979	.510	-7.85	2.37
	Postgraduate (Masters, PhD)	2.433	2.535	.772	-4.12	8.99

Diploma	Secondary school or below	-3.755	2.700	.506	-10.73	3.22
	University	2.739	1.979	.510	-2.37	7.85
	Postgraduate (Masters, PhD)	5.173	2.883	.278	-2.28	12.62
Postgraduate (Masters, PhD)	Secondary school or below	-8.928*	3.131	.024	-17.02	-.84
	University	-2.433	2.535	.772	-8.99	4.12
	Diploma	-5.173	2.883	.278	-12.62	2.28

*. The mean difference is significant at the 0.05 level.

A one-way ANOVA test indicated that there was no statistically significant difference in DASS scores across various age categories, $F(4,278) = 1.48, P = 0.21$ (Table 7).

Table 7 One-way ANOVA among Age Categories on DASS scale

	N	Mean	Std. Deviation	95% Confidence Interval for Mean	
				Lower Bound	Upper Bound
≥ 60 years old	14	20.07	12.917	12.61	27.53
18 - 29 years old	78	22.42	12.467	19.61	25.23
30 - 39 years old	85	22.89	13.487	19.98	25.80
40 - 49 years old	62	20.24	12.323	17.11	23.37
50 - 59 years old	44	17.68	13.155	13.68	21.68
Total	283	21.23	12.924	19.72	22.75

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	979.677	4	244.919	1.48	.210
Within Groups	46120.931	278	165.903		
Total	47100.608	282			

Table 8 indicates the results of one-way ANOVA to test the effect of educational levels on Adolescent Decision-making Questionnaire scale. The findings demonstrated that there was a statistically significant difference in ADMQ score between at least two groups of educational levels, $F(3,279) = 4.67, P = 0.003$.

Table 8 One-way ANOVA for the Effect of Educational Levels on ADMQ scale

	N	Mean	Std. Deviation	95% Confidence Interval for Mean	
				Lower Bound	Upper Bound
Secondary school or below	37	24.51	7.422	22.04	26.99
University	160	20.60	7.386	19.45	21.75
Diploma	56	23.75	7.036	21.87	25.63

Postgraduate (Masters, PhD)	30	20.93	6.762	18.41	23.46
Total	283	21.77	7.400	20.90	22.64

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	738.061	3	246.020	4.67	.003
Within Groups	14706.010	279	52.710		
Total	15444.071	282			

As done earlier, to investigate which groups were statistically significant, Tukey’s HSD test was performed. The results of Tukey’s HSD test for multiple comparisons indicated that the mean value of ADMQ was statistically significant different between individuals graduated from a university and those who are secondary school qualified or below (P = 0.018, 95% CI = 0.49, 7.34) and between university graduated and individuals with a diploma degree (P = 0.028, CI = -6.06, -0.24), as shown in Table 9.

Table 9 Tukey’s HSD for Mean Difference on ADMQ score across Educational Levels

Multiple Comparisons

Dependent Variable: ADMQ

Tukey HSD

(I) Education	(J) Education	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Secondary School or Below	University	3.914*	1.324	.018	.49	7.34
	Diploma	.764	1.538	.960	-3.21	4.74
	Postgraduate (Master's, PhD)	3.580	1.784	.188	-1.03	8.19
University	Secondary School or Below	-3.914*	1.324	.018	-7.34	-.49
	Diploma	-3.150*	1.127	.028	-6.06	-.24
	Postgraduate (Master's, PhD)	-.333	1.444	.996	-4.07	3.40
Diploma	Secondary School or Below	-.764	1.538	.960	-4.74	3.21
	University	3.150*	1.127	.028	.24	6.06
	Postgraduate (Master's, PhD)	2.817	1.643	.318	-1.43	7.06
Postgraduate (Master's, PhD)	Secondary School or Below	-3.580	1.784	.188	-8.19	1.03
	University	.333	1.444	.996	-3.40	4.07
	Diploma	-2.817	1.643	.318	-7.06	1.43

*. The mean difference is significant at the 0.05 level.

Table 10 demonstrates the results of one-way ANOVA to test whether the mean score of Adolescent Decision-making Questionnaire scale was statistically significant different across various age categories. The findings illustrated that there was no statistically significant difference in mean ADMQ scores among age categories, $F(4,278) = 0.29, P = 0.89$.

Table 10 One-way ANOVA for the Effect of Age Categories on ADMQ scale

	N	Mean	Std. Deviation	95% Confidence Interval for Mean	
				Lower Bound	Upper Bound
≥ 60 years old	14	20.79	4.406	18.24	23.33
18 - 29 years old	78	22.17	6.968	20.60	23.74
30 - 39 years old	85	21.93	7.340	20.35	23.51
40 - 49 years old	62	21.90	8.198	19.82	23.99
50 - 59 years old	44	20.89	8.018	18.45	23.32
Total	283	21.77	7.400	20.90	22.64

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	63.453	4	15.863	.29	.89
Within Groups	15380.618	278	55.326		
Total	15444.071	282			

Correlation Analysis

Pearson correlation is used to assess the relationship between depression, anxiety, stress, DASS, ADMQ. Table 11 indicates the correlation matrix. The correlation matrix reports that all the study variables were statistically and significantly correlated. There is a significant positive correlation between DASS and ADMQ ($r = 0.53, P < 0.05$). Also, decision-making has a significant positive correlation with depression ($r = 0.54, P < 0.05$), anxiety ($r = 0.45, P < 0.05$), and stress ($r = 0.45, P < 0.05$). In addition, DASS has a significant positive correlation with depression ($r = 0.91, P < 0.05$), anxiety ($r = 0.89, P < 0.05$), and stress ($r = 0.93, P < 0.05$). Anxiety has a significant positive correlation with depression ($r = 0.71, P < 0.05$), and stress ($r = 0.78, P < 0.05$). Depression is significantly correlated with stress ($r = 0.76, P < 0.05$).

Table 11 Correlation Matrix

Variables	DASS	ADMQ	Depression	Anxiety	Stress
1 DASS	1	.53**	.91**	.89**	.93**
2 ADMQ		1	.54**	.45**	.45**

3	Depression			1	.71**	.76**
4	Anxiety				1	.78**
5	Stress					1

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

Regression Analysis

To test the predictors of adolescent decision-making processes among Kuwaiti population, regression analysis was conducted (Tables 12 and 13). The results explored that depression is a significant predictor of decision-making among Kuwaiti individuals, $\beta = 0.44$, $F(3, 279) = 39.79$, $P < 0.001$). In other words, the results indicated that depression has a significant positive influence on decision-making, $R^2 = 0.30$. It means that 30% of variance in decision-making process is explained by depression among Kuwaiti people.

Table 12 Regression Analysis

Model	R	R Square	Adjusted R Square	df1	df2	F	Sig.
1	.547 ^a	.300	.292	3	279	39.79	.000 ^b

a. Dependent Variable: ADMQ

b. Predictors: (Constant), Stress, Depression, Anxiety

Table 13 Coefficients of Regression Analysis

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
		B	Std. Error			
1	(Constant)	15.971	.752		21.231	.000
	Depression	.645	.117	.442	5.500	.000
	Anxiety	.203	.143	.118	1.421	.156
	Stress	.028	.139	.018	.200	.841

a. Dependent Variable: ADMQ

6. DISCUSSION

In this study, the Arabic versions of the DASS and ADMQ administered to participants revealed acceptable and good internal consistency, respectively. These results are consistent with findings from other studies (Ali et al., 2017; Attar & Ouali, 2023; Nordin et al., 2017; Osman et al., 2012; Coker et al., 2018; Pečjak et al., 2019; Tuinstra et al., 2000).

The comparison of DASS scores between males and females revealed no gender differences. This finding contrasts with other studies conducted among the Kuwaiti population, where females have significantly higher mean scores than their male counterparts in depression, anxiety, and stress (Abdullatif, 2016; Alansari, 2006; Tatyana & Anna, 2023). Research on gender differences in depression, anxiety, and stress has yielded mixed results worldwide, with several studies finding no gender differences (Aazami et al., 2017; Gao et al., 2019; Hishan et al., 2018; Walton &

Politano, 2014). Therefore, a possible explanation for these study findings could be related to biases in data collection, subjective ratings on the DASS, or even the sample size. Another possible explanation could be the nature of Kuwaiti culture, which is based on collectivism, allowing females to access important social support resources (Dakhli et al., 2013). Additionally, social support has been found to be an effective coping strategy for females to buffer stress, depression, and anxiety (Graves et al., 2021).

Regarding the ADMQ, the absence of significant differences between males and females can be partially explained by the lack of gender differences in the DASS, as stress, depression, and anxiety have been reported to have a significant effect on decision-making (Bishop & Gagne, 2018; Cáceda et al., 2014; Yu, 2016). In the study by Missri & Seminar (2008), it was found that men and women approach decision-making with similar strategies when the task is simple. However, as complexity increases, women tend to adopt more analytical and holistic strategies, while men are more likely to exhibit biases and take cognitive shortcuts. Thus, the absence of a difference can be explained by the societal and cultural structure of the Kuwaiti population, which makes females less likely to encounter complex decision-making scenarios (Dakhli et al., 2013). However, further investigation is needed to deeply understand gender implications in decision-making among Kuwaiti and Arabic populations.

Additionally, this study found no significant difference between Urbanists and Bedouins in DASS scores, contrary to expectations. Studies have revealed that the conditions and family structures in which Bedouins live put them at greater vulnerability to mental illness (Alfayumi-Zeadna et al., 2019; Scull et al., 2014; Zangeneh & Al-Krenawi, 2019). The prediction that the Bedouin population would experience higher mental health problems may be biased. While it is true that these individuals live in difficult circumstances, urban populations are also exposed to different stressors (e.g., loneliness, violence, crime, homelessness, pollution, social disparities, insecurity, and lack of contact with nature) that put them at greater risk of mental illness (Gruebner et al., 2017; Okkels et al., 2018; Ventriglio et al., 2021). Furthermore, the absence of differences in DASS scores may partially explain the absence of differences in ADMQ scores (Bishop & Gagne, 2018; Cáceda et al., 2014; Yu, 2016). Additionally, the cultural collectivism and religious background of the Kuwaiti population may mitigate the small cultural differences between Bedouins and Urbanists (Dakhli et al., 2013), reflecting the absence of a significant difference in decision-making approaches.

The study findings revealed that participants with higher educational levels, such as university or postgraduate degrees, had significantly lower DASS scores compared to those with secondary education or less. This result aligns with Bjelland et al.'s (2008) study, which included over 50,000 participants and found that a lower educational level was associated with higher levels of depression and anxiety, with this association extending across different age groups up to 65. Additionally, other studies have shown that lower educational levels are linked to higher stress levels (Golubic et al., 2009; Lunau et al., 2015; Michailidis & Georgiou, 2005). A possible explanation for these findings is that higher educational levels are often associated

with better financial resources, access to healthcare, improved social status, and jobs with more autonomy and complexity, all of which are related to reduced stress and better mental well-being (Cutler & Lleras-Muney, 2010; Easterbrook et al., 2015; Livingston et al., 2022; Ross & Mirowsky, 2010). Moreover, participants with lower educational levels scored higher on the ADMQ, which is associated with avoidant and panicky decision-making styles (Denizsever et al., 2021; Filipe et al., 2020). This finding may be explained by the link between higher educational levels and enhanced cognitive performance, particularly in reasoning. Guerra-Carrillo and colleagues (2017) found that higher academic achievement was linked to better cognitive performance, especially in reasoning, without age mediating this relationship. Furthermore, higher education improves decision-making by reducing risk aversion, ambiguity aversion, and time-related behavioral anomalies, leading to more rational and balanced choices. Participants with higher education levels tend to handle moderate risks and uncertainties more effectively and exhibit less impulsive behavior over time (Chew et al., 2016; Noviekayati et al., 2019).

Interestingly, the study found no effect of age on DASS scores, contrary to several other studies (Mahoney et al., 2015; Moustafa et al., 2017; Neupert et al., 2007). This could be attributed to Kuwait being a highly religious country, with nearly the entire population being Muslim (Dakhli et al., 2013). Generally, religious practices have been associated with lower levels of depression, anxiety, and stress across different age groups (Fatima et al., 2022; McFarland, 2020; Schieman et al., 2013; Sternthal et al., 2010). More specifically, many studies suggest that Islam can serve as a significant mental health protector and promoter (Najam et al., 2019; Salji et al., 2022; Shirzad et al., 2022). Thus, religion may play a crucial role in stabilizing stress, depression, and anxiety levels among various age groups within the Kuwaiti population, although further research is needed.

Additionally, the study found no effect of age on decision-making, which contrasts with findings from several other studies. It has been suggested that older adults tend to use more straightforward, heuristic approaches and have a more favorable view of their past decisions, which may hinder their ability to learn from mistakes. These tendencies, combined with age-related declines in brain function and executive skills, impact decision-making, especially in uncertain or risky situations. Reductions in functions such as categorization and monitoring further complicate decision-making for older adults compared to younger individuals (Brand & Markowitsch, 2010; Löckenhoff, 2018; Wilson et al., 2022). The small sample of older adults in this study might explain the lack of a significant difference, but further investigation is warranted.

This study's findings revealed that only depression significantly predicts decreases in the ADMQ. This result aligns with other research suggesting that depression affects decision-making processes (Bishop & Gagne, 2018; Blanco et al., 2013; Cáceda et al., 2014). For example, in patients with depression, cognitive impairments correlate with the severity of their symptoms, impacting their logical reasoning and emotional learning abilities (Iznak et al., 2016), which in turn affects their decision-making processes. Additionally, depression involves dysfunction in brain mechanisms responsible for evaluating decision-related variables, leading to a

misalignment between pessimistic perceptions and environmental feedback, thereby disrupting decision-making (Huys et al., 2015). Further investigation into the absence of anxiety and stress effects is needed.

7. CONCLUSION

This study highlights the relationship between depression, anxiety, stress, and decision-making within the Kuwaiti population, including Bedouins and urbanites. No significant differences were found between males and females or between Bedouins and urbanites on the DASS and ADMQ scales, suggesting a uniform impact of these mental health issues on decision-making across these groups. Moreover, educational level significantly influences mental health, with individuals holding university degrees exhibiting lower levels of depression, anxiety, and stress compared to those with only secondary education. The strong positive correlations between DASS and ADMQ scores indicate that higher levels of depression, anxiety, and stress are linked to increased anxiety symptoms and impaired decision-making abilities.

Importantly, depression emerged as a significant predictor of decision-making among Kuwaitis. These findings underscore the need to address mental health issues to improve decision-making and overall quality of life. Future research should explore the mechanisms behind these relationships and assess intervention effectiveness, considering cultural and gender-specific factors for targeted mental health strategies.

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