

GENDER DIFFERENCES IN ANXIETY AMONG UNDERGRADUATES FROM TEN ARAB COUNTRIES

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This study investigated gender differences in anxiety among volunteer undergraduates recruited from 10 Arab countries; Kuwait, Saudi Arabia, Emirates, Oman, Egypt, Syria, Lebanon, Palestine (Nablus and Gaza), Jordan and Iraq ($N = 3,064$). The Kuwait University Anxiety Scale (KUAS) was used in its Arabic form. It was found that females had higher mean anxiety scores than did their male counterparts in all 10 countries. However, significant differences were found in 7 out of the 10 countries. The salient gender differences were interpreted in the light of a socialization process; especially sex-typing and gender roles.

Anxiety is one of the most fundamental of all constructs in psychology. The concept of anxiety is central in conceptualization of psychopathology, motivation, and personality. Thus, there are wide ranges of points of view and perspectives on anxiety; as normal facilitating, pathological debilitating, negative affect, emotional state or reaction, motivation, personality trait, or disorder and syndrome. So, research on anxiety is one of the most active areas in psychology, and it has been the focus of considerable study especially in the last two decades (see, e.g., Cox & Norton, 2000; Cox, Wessel, Norton, Swinson, & Direnfield,

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1995; Last, 1993; Norton, Cox, Asmundson, & Maser, 1995; Rapee, 1996; Wolman & Stricker, 1994).

Among the negative emotions, anxiety is the most widely experienced of all. Almost all human beings have recognized, and have experienced, states of anxiety. Notwithstanding the universality of anxiety, the question can be raised as to whether there are cultural differences pertaining to the nature and level of anxiety. Sartorius (1990) stated that “the analysis of the origin of the words used to describe anxiety can help in understanding how the concept is conceived of in different cultures. In ancient Egyptian language, the word for acute fear is composed of two symbols, one indicating narrowness and the other showing a man prostrate, as if dying. The latter is the same symbol used to describe a severely wounded person. In Arabic, anxiety’s meanings are similar to the Slavic idioms. There are a variety of words used to suggest a state of anxiety – some referring to restlessness, others to constriction of chest or stomach”. (p. 5f).

In the field of anxiety research, the assessment and measurement issues are of major interest (see e.g., Antony, Orsillo, & Roemer, 2001; Maltby, Lewis, & Hill, 2000). In Arabic psychological studies on anxiety, there are two trends. First, a trend towards translating and adapting the Western (mainly American and British) scales and inventories, for example, the State-Trait Anxiety Inventory developed by Spielberger, Gorsuch, Lushene, Vagg, and Jacobs (1983), and adapted by Abdel-Khalek (1989). Second, there has been a trend towards composing and constructing local scales. It is our contention that there is a great need to develop and validate psychological tests in Arabic by Arab-speaking psychologists, with good translations into English to address the growing interest in cross-cultural comparisons, thereby bringing alternative cultural perspectives to scale construction. The Kuwait University Anxiety Scale (KUAS) is one of these.

The KUAS (Abdel-Khalek, 2000, 2002, 2003, 2004) was developed originally in Arabic and has comparable forms and several results in English (Abdel-Khalek & Lester, 2002, 2003), Spanish (Abdel-Khalek, Tomás-Sábado, & Gomez-Bénito, in press), and German (Abdel-Khalek, Reschke, Rudwan, & Tanjour, Manuscript submitted for publication). Based on the Arabic version, results are available on college students from specific Arab countries, that is Kuwait (Alansari, 2002, 2004b), Syria (Abdel-Khalek & Rudwan, 2001), Saudi Arabia (Abdel-Khalek & Al-Damaty, 2003), and Lebanon (Abdel-Khalek & El-Yahfoufi, 2004).

The aim of the current investigation was to explore sex-related differences in anxiety as assessed by the KUAS, using undergraduates recruited from 10 Arab countries.

METHOD

PARTICIPANTS

The KUAS was mailed to either university rectors or colleagues in the selected countries included in the present study. The final sample included 3,064 respondents distributed among the 10 countries: Kuwait, Kuwait University (296); Saudi Arabia, King Faisal University (300); UAE, United Arab Emirates University (203); Oman, Sultan Qaboos University (303); Egypt, Alexandria University (290); Syria, Damascus University (340); Lebanon, Lebanese University (280); Palestine, University of Al-Najah (285) and Gaza Strip (253); Jordan, Yarmouk University (212); Iraq, University of Baghdad (302). The ages of all the participants ranged between 18 and 25. The questionnaires were distributed with the understanding that all completed questionnaires would be returned within three months from the date of their issue. The Arabic form of the scale was administered in small group sessions to volunteer undergraduates enrolled in the ten Arabic universities.

THE SCALE

The KUAS comprises 20 brief statements, answered on a 4-point intensity scale, ranging from 1: *Rarely* to 4: *Always*. Factor analysis yielded three high-loaded factors of Cognitive/Affective, Behavioral/Subjective, and Somatic Anxiety, with moderate interfactor correlations. Item-remainder correlations ranged from .27 to .74. Reliabilities ranged from .88 to .92 (alpha) and between .70 and .93 (test-retest) denoting good internal consistency and temporal stability. Criterion-related validity of the scale ranged between .70 and .88 (5 criteria), while the loadings of the scale on a general factor of anxiety were .93 and .95 in two factor analyses, demonstrating the scale's criterion-related and factorial validity. Divergent and discriminant validities of the scale were also demonstrated (Abdel-Khalek 2000, 2004). The alpha coefficients in the ten samples in the present study ranged from .82 to .94, denoting good internal consistency (Alansari, 2004, b).

RESULTS

Table 1 sets out the descriptive statistics of the KUAS scale. Inspection of this table shows that the mean KUAS score is significantly higher among female college students than is the mean score of their male counterparts in the seven countries: Kuwait, Saudi Arabia, Emirates, Oman, Egypt, Syria, and Lebanon. On the other hand, there were no significant gender differences among participants from Palestine, Jordan and Iraq.

TABLE 1
MEAN AND STANDARD DEVIATION OF THE KUWAIT UNIVERSITY ANXIETY SCALE IN
TEN ARAB COUNTRIES

No.	Country	Male			Female			<i>t</i>	<i>p</i>
		<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>		
1.	Kuwait	144	35.78	10.10	152	41.74	11.88	4.66	.0001
2.	Saudi Arabia	150	35.11	8.94	150	41.83	9.77	6.22	.0001
3.	Emirates	100	34.44	7.80	103	39.46	10.88	3.78	.0001
4.	Oman	115	36.03	10.66	188	40.57	10.19	3.70	.0001
5.	Egypt	141	39.47	10.20	149	44.34	11.97	3.74	.0001
6.	Lebanon	139	36.00	9.41	141	40.40	10.23	3.75	.0001
7.	Syria	147	37.84	9.46	193	41.61	10.44	3.48	.0001
8a.	Palestine (Nablus)	131	41.60	11.30	154	43.14	12.17	1.11	-
8b.	Palestine (Gaza)	120	37.98	11.17	133	40.48	10.63	1.82	-
9.	Jordan	117	43.99	10.74	95	41.21	10.32	1.91	-
10.	Iraq	145	38.55	9.30	157	40.62	10.52	1.81	-

DISCUSSION

The main objective of the current series of investigations was adequately fulfilled. The female groups had higher mean anxiety scores in all 10 countries than did their male counterparts. However, significant differences were found in 7 out of the 10 countries. Therefore, it is safe to conclude that differences overshadow similarities. This finding is consistent with previous results (see e.g., Alansari, 2004a ; Feingold, 1994; Gater, Tansella, Korten, Tiemens, Mavreas, & Olatawura, 1998; Mackinaw-Koons & Vasey, 2000; Pigott, 1999; Scheibe & Albus, 1992; Weisman, 1985; Yonkers & Gurguis, 1995). Female preponderance of anxiety has been a consistent finding, whether in children, adolescents, undergraduates, adults, the aged, anxiety disorder patients, or in community surveys.

Different theories have been proposed to elucidate the development of sex role behavior. Foremost among them are the social learning theory (modeling and imitation), cognitive developmental theory, and the gender schema theory (Jacklin, 1989). In the same vein, environmental stress has been reported as relevant to the development and exacerbation of anxiety (Barlow, 1988), as well as conflict-affected family environments (Silverman & Nelles, 1988), impaired social functioning (Benjamin, Costello, & Warren, 1990), low self-esteem (Messer & Beidel, 1994), emotional reliance (Bornstein & Johnson, 1990), social desirability (Hagborg, 1991), somatic health complaints (Last, 1991), and pain behavior (Sullivan, Tripp, & Santor, 2000). Shear, Feske, and Greeno (2000) focused on four areas of gender differences, that is, gender roles, gender-role stress, social relationships, and gender differences in exposure to social adversity.

As far as the Arab countries are concerned, Arab researchers hypothesized that both child-rearing practices and orthodox Arab traditions have an impact. Al-Subaie and Alhamad (2000) maintained that “there is a growing conflict between the traditional female role of getting married and bearing children and the new endeavors of gaining education and working outside the home” (p. 207).

Following a similar pattern, Fakhri-El-Islam (2000) stated that “tradition maintains a hierarchical order in the family in which dominance of male over female and older over younger is observed... A son is given more freedom, authority, and responsibility than a daughter... The preference of Arabs for male children is surpassed by only a few cultures, for example, the Chinese, who have a saying: it is better to raise geese than daughters as stated by Tseng and McDermont in 1981, and who also share the belief that a woman determines the sex of her babies. The traditionally disadvantaged status of Arab women emphasizes submission and dependency as important feminine attributes in the upbringing of girls” (p. 123).

However, Lewinsohn, Gotlib, Lewinsohn, Seeley, and Allen (1998) concluded that gender differences in vulnerability to anxiety disorders among adolescents cannot be explained by differing social roles and experiences. Rather, their results are more consistent with the formulation that the female vulnerability to anxiety is associated with some type of genetic, rather than purely environmentally determined, gender differences (p. 113).

By the same token, Seeman (1997), basing her conclusion on the examination of the female hormones, stated that “the estrogens are neuroprotective with respect to neuronal degeneration, growth, and susceptibility to toxins. The cyclic fluctuations of estrogens and progesterone enhance the response to stress, which confers susceptibility to depression and anxiety” (p. 1641).

In the present researchers' opinion, the anxiety score of any given person is the end product of both biological and psychosocial factors and their interaction. Furthermore, the response styles, especially social desirability and the tendency to hyperbole, have an impact on anxiety scores.

The limitations of this series of studies should be noted in any attempt to generalize from its findings. Foremost among them is the sample. Notwithstanding the large sample size ($N = 3,064$) recruited from a large number of Arab countries (i.e., 10), the age range of these participants was limited (from 18 to 25 years). Therefore, there is a great need to extend this research and to replicate the present study in younger and older age ranges.

REFERENCES

- Abdel-Khalek, A. M. (1989). The development and validation of an Arabic form of the STAI: Egyptian results. *Personality and Individual Differences*, **10**, 277-285.

- Abdel-Khalek, A. M. (2000). The Kuwait University Anxiety Scale: Psychometric properties. *Psychological Reports, 87*, 478-492.
- Abdel-Khalek, A. M. (2002). Age and sex differences for anxiety in relation to family size, birth order, and religiosity among Kuwaiti adolescents. *Psychological Reports, 90*, 1031-1036.
- Abdel-Khalek, A. M. (2003). Adequacy of an English version of the Kuwait University Anxiety Scale based on back translation and testing bilingual subjects. *Psychological Reports, 93*, 1101-1104.
- Abdel-Khalek, A. M. (2004). Divergent, criterion-related, and discriminant validities for the Kuwait University Anxiety Scale. *Psychological Reports, 94*, 572-576.
- Abdel-Khalek, A. M., & Al-Damaty, A. A. (2003). The Kuwait University Anxiety Scale: Results for 9,031 Saudi students. *Psychological Reports, 93*, 203-212.
- Abdel-Khalek, A. M., & El-Yahfoufi, N. (2004). Prevalence rates of anxiety, its correlates and predictors among Lebanese students. *The Educational Journal, 18*, 11-54. Kuwait University (in Arabic).
- Abdel-Khalek, A. M., & Lester, D. (2002). Can personality predict suicidality? A study in two cultures. *International Journal of Social Psychiatry, 48*, 231-239.
- Abdel-Khalek, A. M., & Lester, D. (2003). The Kuwait University Anxiety Scale: A cross-cultural evaluation in Kuwait and United States. *Psychological Reports, 93*, 1109-1114.
- Abdel-Khalek, A. M., & Rudwan, S. (2001). The Kuwait University Anxiety Scale: Reliability and criterion-related validity in Syrian college students. *Psychological Reports, 89*, 718.
- Abdel-Khalek, A. M., Reschke, K., Rudwan, S., & Tanjour, I. (Manuscript submitted for publication). The German version of the Kuwait University Anxiety Scale (G-KUAS): Psychometric parameters.
- Abdel-Khalek, A. M., Tomás-Sabádo, J., & Gomez-Béñito, J. (in press). The Spanish version of the Kuwait University Anxiety Scale (S-KUAS): Psychometric parameters. *European Journal of Psychological Assessment*.
- Alansari, B. M. (2002). The Kuwait University Anxiety Scale: A study of its validity, reliability and correlates among samples from Kuwait University undergraduates. *Bulletin of the Faculty of Arts, Alexandria University, Egypt, Special Issue*, 1-47.
- Alansari, B. M. (2004a). Cigarette smoking behavior among Kuwait University male undergraduates: A study on smoker's personality. *Annals of Arts and Social Sciences, No.217*, (special issue).
- Alansari, B. M. (2004b). Internal consistency of the Kuwait University Anxiety Scale in ten Arab countries. *Social Behavior and Personality, 32*, 221-224.
- Al-Subaie, A., & Alhamad, A. (2000). Psychiatry in Saudi-Arabia. In I. Al-Issa (Ed.), *Al-Junun: Mental illness in the Islamic world* (pp. 205-233). Madison: International Universities Press.
- Antony, M. M., Orsillo, S. M., & Roemer, L. (Eds.) (2001). *Practitioner's guide to empirically based measures of anxiety*. New York: Kluwer Academic/Plenum.
- Barlow, D. (1988). *Anxiety and its disorders: The nature and treatment of anxiety and panic*. New York: Guilford Press.
- Benjamin, R., Costello, E. J., & Warren, M. (1990). Anxiety disorders in a pediatric sample. *Journal of Anxiety Disorders, 4*, 293-316.
- Bornstein, R. F., & Johnson, J. G. (1990). Dependency and psychopathology in a nonclinical sample. *Journal of Social Behavior and Personality, 5*, 417-422.
- Cox, B. J., & Norton, G. R. (2000). Future directions in anxiety disorders: Profiles and perspectives of leading contributors. *Journal of Anxiety Disorders, 14*, 69-95.
- Cox, B. J., Wessel, I., Norton, G. R., Swinson, R. P., & Dorenfeld, D. M. (1995). Publication trends in anxiety disorders research: 1990-1992. *Journal of Anxiety Disorders, 9*, 531-538.
- Fakhr El-Islam, M. (2000). Mental illness in Kuwait and Qatar. In I. Al-Issa (Ed.), *Al-Junun: Mental illness in the Islamic world* (pp. 121-137). Madison: International Universities Press.
- Feingold, A. (1994). Gender differences in personality: A meta-analysis. *Psychological Bulletin, 116*, 429-456.

- Gater, R., Tansella, M., Korten, A., Tiemens, B. G., Mavreas, V. G., & Olatawura, M. O. (1998). Sex differences in the prevalence and detection of depressive and anxiety disorders in general health care settings. *Archives of General Psychiatry*, **55**, 405-413.
- Hagborg, W. J. (1991). The Revised Children's Manifest Anxiety Scale and social desirability. *Educational and Psychological Measurement*, **51**, 423-427.
- Jacklin, C. N. (1989). Female and male: Issues of gender. *American Psychologist*, **44**, 127-133.
- Last, C. G. (1991). Somatic complaints in anxiety disordered children. *Journal of Anxiety Disorders*, **5**, 125-138.
- Last, C. G. (Ed.) (1993). *Anxiety across the lifespan: A developmental perspective*. New York: Springer.
- Lewinsohn, P. M., Gotlib, I. H., Lewinsohn, M., Seeley, J. R., & Allen, N. B. (1998). Gender differences in anxiety disorders and anxiety symptoms in adolescents. *Journal of Abnormal Psychology*, **107**, 109-117.
- Mackinaw-Koons, B., & Vasey, M. W. (2000). Considering sex differences in anxiety and its disorders across the life span: A construct-validation approach. *Applied and Preventive Psychology*, **9**, 191-209.
- Maltby, J., Lewis, C. A., & Hill, A. (Eds.) (2000). *Commissioned reviews of 250 psychological tests*. 2 Vols. Lewiston, New York: The Edwin Mellen Press.
- Messer, S. C., & Beidel, D. C. (1994). Psychosocial correlates of childhood anxiety disorders. *Journal of the American Academy of Child and Adolescent Psychiatry*, **33**, 975-983.
- Norton, G. R., Cox, B. J., Asmundson, G. J. G., & Maser, J. D. (1995). The growth of research on anxiety disorders during the 1980s. *Journal of Anxiety Disorders*, **9**, 75-85.
- Pigott, T. A. (1999). Gender differences in the epidemiology and treatment of anxiety disorders. *Journal of Clinical Psychiatry*, **60** (Suppl. 18), 4-15.
- Rapee, R. M. (Ed.) (1996). *Current controversies in the anxiety disorders*. New York: Guilford.
- Sartorius, N. (1990). Cross-cultural and epidemiological perspectives on anxiety. In N. Sartorius, V. Andreoli, G. Cassano, L. Eisenberg, P. Kielholz, P. Pancheri, & G. Racagni (Eds.), *Anxiety: Psychopathological and clinical perspectives* (pp. 5-11). New York: Hemisphere.
- Scheibe, G., & Albus, M. (1992). Age at onset, precipitating events, sex distribution, and co-occurrence of anxiety disorders. *Psychopathology*, **25**, 11-18.
- Seeman, M. V. (1997). Psychopathology in women and men: Focus on female hormones. *American Journal of Psychiatry*, **154**, 1641-1647.
- Shear, M. K., Feske, U., & Greeno, C. (2000). Gender differences in anxiety disorders: Clinical implications. In E. Frank (Ed.), *Gender and its effects on psychopathology* (pp. 151-165). Washington DC: American Psychiatric Publishing Inc.
- Silverman, W. K., & Nelles, W. B. (1988). The Anxiety Disorders Interview Schedule for Children. *Journal of the American Academy of Child and Adolescent Psychiatry*, **27**, 772-778.
- Spielberger, C. D., Gorsuch, R. L., Lushene, R., Vagg, P. R., & Jacobs, G. A. (1983). *Manual for the State-Trait Anxiety Inventory (Form Y)*. Palo Alto, CA: Consulting Psychologists.
- Sullivan, M. J. L., Tripp, D. A., & Santor, D. (2000). Gender differences in pain and pain behavior: The role of catastrophizing. *Cognitive Therapy and Research*, **24**, 121-134.
- Weisman, M. (1985). The epidemiology of anxiety disorders: Rates, risks and familial patterns. In J. M. Masser & H. Tuma (Eds.), *Anxiety and anxiety disorders*. Hillsdale, N.J.: Erlbaum.
- Wolman, B. B. (Ed.), & Stricker, G. (Co-ed.) (1994). *Anxiety and related disorders: A handbook*. New York: Wiley.
- Yonkers, K. A., & Gurguis, G. (1995). Gender differences in the prevalence and expression of anxiety disorders. In M. V. Seeman (Ed.), *Gender and psychopathology* (pp. 113-130). Washington, DC: American Psychiatric Press.

