Psychometric Evaluation of the Arabic Version of the Spiritual Well-Being Scale on a Sample of Jordanian Arab Christians

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Abstract

This paper assesses the psychometric properties of the Arabic version of the Spiritual Well-Being Scale (SWBS) in an Arab Christian sample by analyzing its internal structure. A convenience sample of 340 Arab Christians was recruited from the adult community population of northern Jordan. Data were collected through a self-completion, anonymous questionnaire distributed through church and community groups. Principal Components factor analysis, non-parametric bivariate statistics, and Cronbach's alpha were used to assess the psychometric properties of the total scale and its subscales. The findings broadly supported the factor structure of the SWBS in other Arab samples in that the scale consists of three factors, representing positive existential well-being, affiliation, and alienation subscales. In conclusion, these preliminary findings suggest that the Arabic version of the SWBS can be used as an instrument to measure levels of spiritual well-being in Arab Christian populations.

*Keywords:*Arabic Spiritual Well-Being Scale, psychometric properties , factor structure, three-factor solution, Jordanian Arab Christians

A number of authors describe spiritual well-being as a dual concept composed of both vertical (religious) and horizontal (existential) dimensions (Baldacchino & Buhagiar, 2003; Cavendish et al., 2000; Ellison, 1983; Ross, 1997; Strang, Strang, & Ternestedt, 2002). Ellison (1983) described the vertical (religious) dimension as referring to a person's sense of well-being in relation to God, and the horizontal (existential) dimension as that which refers to a person's sense of purpose and satisfaction in life and life direction. In the line with this notion, Ross (1997) defined spiritual well-being as "the overall sate of spiritual health which is evidenced by the presence of: meaning, purpose, and fulfillment in life; the will to live; belief and faith in self, others, and God" (p. 14). More recently, Rovers and Kocum (2010) defined spirituality as "the driving force which gives meaning, stability, and purpose to life through relatedness to dimensions that transcend the self. These three dimensions are faith in the presence of God/transcendent, hope and meaning and purpose in life, and love expressed with family and community" (p. 17).

From the multidimensional nature of spirituality emerged the need for spirituality assessment tools, combined with the need to measure the various constructs of spirituality as perceived by individuals from different cultures and/or religions (Slater, Hall, & Edwards, 2001). Therefore, empirical research has witnessed an increase in the interest of the quality of measures including their validity and reliability across different cultures and religions. The Spiritual Well-Being Scale (SWBS) is considered one of the most widely used instruments to measure spiritual well-being since its publication in 1982 (Tanyi, 2002). Even though the SWBS was developed primarily in a Christian

context and influenced by the Judeo-Christian concept of well-being, Ellison (1983) argued that the SWBS is a nonsectarian instrument that can be used in studies from different cultures. Miller, Fleming, and Brown-Anderson (1998) asserted that using the SWBS within different cultures might shape the responses to the scale differently and so studies of different cultures are essential to understand the similarities between and differences across groups. In a recent study by Musa and Pevalin (2012) it was found that a newly derived Arabic version of the SWBS is a valid and reliable instrument when used by Arab Muslim participants. However, the psychometric properties of the SWBS have not previously been examined using an Arab Christian sample.

The subscale structure of the SWBS determined from factor analysis has varied across studies. Originally, Ellison (1983) found two main factors using a sample of college students in the United States. These two factors were labeled as religious well-being (RWB) and existential well-being (EWB). This two-factor solution was confirmed by several studies using samples of caregivers (Kirschling & Pittman, 1989), male prisoners (Fernander, Wilson, Staton, & Leukefeld, 2004), college students (Genia, 2001; Rovers & Kocum, 2010; Taliaferro, Rienzo, Pigg Jr., Miller, & Dodd, 2009), and Arab Muslim cardiac patients (Musa & Pevalin, 2012). However, the two-factor solution was not found in other samples of Caucasian and African-Americans college students (Miller et al., 1998), psychiatric inpatients (Scott, Agresti, & Fitchett, 1998), and Jordanian Muslim college students (Musa & Pevalin, 2012). Results from these studies revealed three or more factors in the structure to the SWBS. Moreover, Ledbetter, Smith, Fischer, Vosler-Hunter, and Chew (1991) performed confirmatory factor analysis on the SWBS using archival data from two religious samples and failed to confirm either

the hypothesized one-factor or two-factor structure of the SWBS. Miller et al. (1998) concluded that the factor structure of the SWBS in their study reflected the cultural differences between Caucasian and African-American groups in a meaningful way. Similarly, Scott et al. (1998) concluded that the resultant three factors to the SWBS are clear and distinct factors with a minimum complexity, appears more parsimonious and psychometrically sound.

There is a paucity of health research involving spirituality and religiosity using Arab Christian samples. Therefore, the present study used a Jordanian Arab Christian sample to assess the cross-cultural applicability of the Arabic version of the SWBS by examining its psychometric properties.

Jordan, one of the most modern countries in the Middle East, is a small lower-middle income country with limited natural resources. The population in 2012 was estimated at 6.3 million (Department of Statistics, 2012). Approximately 98% of the population is Arab. Sunni Muslims are the largest religious group (95%) and Christians are approximately 3% of population (U.S. Department of State, 2011). Jordanian Arab Christians are one of the oldest Christian communities and, generally, have a high level of religious freedom. Many of the Jordanian Arab Christians are descended from the Ancient Arab Ghassanid and Lakhmid Tribes. Today, Christians are well integrated in Jordanian society and generally have a friendly and peacefully relationship with Muslims. There is no specific geographic concentration of Christians in Jordan. Nearly all Christians belong to the middle or upper classes. They have a disproportionately large representation in the Jordanian parliament and hold important and high positions in the government and military (Minority Rights Group International, 2005). There are

many Christian schools and hospitals in Jordan that provide services for both Christian and Muslim families. Public and private sectors in Jordan allow their Christian employees to leave their work to attend church services on Sundays. All religious Christian ceremonies are publicly celebrated in Jordan. The officially recognized Jordanian Arab Christian denominations include the Greek Orthodox, Melkite Greek Catholic, Latin Roman Catholic, Assyrian, Coptic, and Protestant, in particular Anglican and Lutheran. The majority of Jordanian Arab Christians are from the Greek Orthodox denomination (US Department of State, 2011).

Methods

Sample and Setting

A convenience sample of 340 Arab Christians was recruited from the adult community population who live in the northern parts of Jordan, including Irbid, Jarash, Agloon, Al-Mafraq, and Al-Sarqa cities. Participants who self-identified as Jordanian Arab Christian, were 18 years of age or older, had ability to read, write, and clearly understand the Arabic language, and were physically and psychologically able to complete the questionnaire were eligible to participate. Of the participants, 31.2% (*n* = 106) were men and 68.8% (*n* = 234) were women. A majority of the participants (60.3%, *n* = 205) were married and 38.5% (*n* = 131) were single. Participants who had the lowest educational levels ranging from secondary to high school level accounted for 19.7% (*n* = 67). Participants with an undergraduate level of education were 49.1% of the sample (*n* = 167) with 20.9% (*n* = 71) of participants with college level education and 10.3% (*n* = 35) with postgraduate level. Most participants (66.8%, *n* = 227) were

working with a quarter (25.3%, *n* = 86) not working and 7.9% (*n* = 27) being retired. The majority of participants earned more than 500 Jordanian Dinars per month (1 US dollar = 0.71 JD). The sample included participants from most of the main denominations of Jordanian Arab Christians but the majority of participants where either Greek Orthodox or Protestant. The numbers of each denomination in the sample did not support analysis by specific denominations.

Procedure

Permission was obtained from the developers of the original SWBS to use the Arabic version in this study and approval to carry out this study was obtained from the Institutional Review Board of Al al-Bayt University, Jordan. The questionnaires were distributed by one of the research team or research assistants who are Arab Christians through church and community meetings. Potential participants were informed about the study and those who were interested and met the inclusion criteria were invited to participate and to give their verbal consent. Each participant received an envelope which contained the questionnaire and written instructions describing the purpose of the study, benefits and risks of the study, and the participant's right to refuse participation or to withdraw from the study at any time. Participants were asked to return questionnaires on the day or within one week. Completion and return of the questionnaire was taken as implied consent for the data to be used in this study. The participants' names were not included in the questionnaire and only code numbers identified questionnaires.

Data collection was carried out over a two-month period starting in December 2011. Five questionnaires were excluded because they were either significantly

incomplete or used a fixed pattern of responses resulting in 340 completed questionnaires that were used in the analysis.

Measures

The socio-demographic data included information on age, gender, education, marital status, working status, and income.

Spiritual Well-Being Scale. The SWBS is 20-item self-report paper-pencil instrument. Each item is answered on a 6-point Likert scale ranging from *strongly agree* to *strongly disagree*. The SWBS consists of two subscales, which are the Religious Well-Being (RWB) and Existential Well-Being (EWB) subscales. Ten items are designed to measure RWB and contain the word “God” and 10 items measure EWB and ask such things as life satisfaction, meaning, and direction. Items from each subscale are presented alternately. An example of the RWB subscale items is "I believe that God loves me and cares about me" and one from the EWB subscale is "Life doesn’t have much meaning." The overall score from the SWBS is computed by summing responses to all twenty items after reversing the negatively worded items. The total scores of the SWBS range from 20 to 120 with a higher score representing greater well-being. Face validity and construct validity have been demonstrated for this scale (Ellison, 1983). The Arabic version of the SWBS was developed by and reported in Musa and Pevalin (2012) who used asymmetrical back translation methods with an expert panel to convert the SWBS from English to Arabic, which was then piloted on Jordanian college students before reporting evidence of construct validity of the final Arabic version with a sample of Arab Muslim cardiac patients.

Analysis

Descriptive statistics, factor analysis, and bivariate analysis were used to analyze the data using SPSS version 19. Descriptive statistics include frequency distributions and percentiles, mean, standard deviation, range of scores, skewness, and kurtosis. Non-parametric statistics and tests were used in the bivariate analysis including Spearman's rho, the Mann-Whitney U test (2 groups), and the Kruskall-Wallis test (3 or more groups) to examine associations between the SWBS total score and its subscales and to test for significant differences between groups in the demographic variables. The level of significance for all bivariate tests was set at $p < 0.05$. An exploratory factor analysis was conducted to examine the factor structure of the Arabic version of the SWBS. The internal consistency of the main scale and subscales was assessed by Cronbach's alpha.

Results

The exploratory factor analysis used Principal Components extraction with oblique rotation. With 340 participants and 20 items of the SWBS, the sample size exceeds the suggested 10-15 participants per variable ratio to perform factor analysis (Field, 2005; Munro, 2005). Moreover, a sample size of 300 participants or more will probably be sufficient to provide a stable factor structure (Field, 2005). The data also met the standards of the determinant of correlation matrix, the KMO measure of sampling adequacy, and Bartlett's Test of Sphericity (Field, 2005).

The Principal Components analysis produced five factors, by Kaiser's criterion, with Eigenvalues greater than 1 that accounted for a cumulative total of 57.6% of the overall variance. However, for Kaiser's criterion to be accurate, the mean of the

communalities must exceed 0.60 with sample size greater than 250 or exceeds 0.7 with number of variables less than 30 (Field, 2005). In the current study, the number of variables was less than 30 and the sample size was greater than 250, but the mean of the communalities was 0.58. Therefore, Kaiser's criterion may not be accurate. With a sample size of more than 200, the scree test provides a reliable indication of the number of factors (Stevens, 1996). By examining the scree test there was a clear break between the third and fourth factors suggesting a three-factor solution. The first three factors together accounted for 46.4% of the variance. In addition, these three factors had high internal reliability, each with a Cronbach's alpha above 0.70. It was therefore decided to extract only three factors. The three factors were then rotated using a direct oblimin rotation as it was expected that the factors were correlated with each other. A comparison between orthogonal and oblique rotations revealed no significant differences in the factor structure. A minimum cut-off point of 0.30 was set to determine the acceptable item-factor loading (Stevens, 1996). Table 1 presents the structure matrix of the factor loadings for each item onto each factor. The highest loadings are shown in bold.

< Table 1 about here >

The resultant factors were named based on the relevant items in each by descending order with respect to the magnitude of their factor loadings (Munro, 2005; Waltz, Strickland, & Lenz, 2010). All but one of the items in factor 1 had factor loadings above 0.59 and relate to one's positive sense of life satisfaction, life direction and future, and life purpose. Therefore, this factor was labeled *Positive Existential Well-Being* (PEWB). The exception was item 16 "I feel that life is full of conflict and unhappiness,"

which had the lowest factor loading of 0.32 and theoretically relates to the third factor so it was included in that factor for all further analyses. All items in factor 2 had factor loadings above 0.46 and measure aspects concerning a positive experience of one's relationship with God. Therefore, this factor was labeled *Affiliation*. Items in factor 3 had factor loadings above 0.44 and most (6 of 8) relate to one's sense of dissatisfaction with life and God and to one's sense of distance from God. Therefore, this factor was labeled *Alienation*. This factor also contains items 7 and 15, which are theoretically consistent with factor 2 where they had slightly smaller but still substantial loadings (> 0.30). Therefore, items 7 and 15 were retained in factor 2 for the purposes of statistical analyses in the current study.

Table 2 presents the mean, standard deviation, range, skewness, kurtosis, and Cronbach's alpha for the SWBS and its subscales from the factor analysis. All scales were examined for normality using histograms, the Shapiro-Wilk test, and Z-scores for skewness and kurtosis. Z-scores above + 1.96 or below – 1.96 indicate that the distribution is significantly skewed or kurtosed, and so normality of distribution cannot be assumed (Field, 2005; Munro, 2005). Only the Alienation subscale was reasonably normally distributed whereas the SWBS total score and the other subscales were statistically significantly skewed. Therefore, non-parametric statistics and tests were used. The internal reliability for the SWBS total score and its subscales were acceptable to high with alpha coefficients ranging from 0.71 to 0.87 (Burns & Grove, 2005; Nunnally, 1978).

< Table 2 about here >

All correlations between the SWBS total score and its subscales are shown in Table 3. There was a moderate and statistically significant positive correlation among the three subscales of the SWBS ranging from 0.52 to 0.62, suggesting that there is enough unique variance to confirm that these are related but separate constructs.

< Table 3 about here >

The distribution of the SWBS total score and its subscales by socio-demographic variables are presented in Table 4. Among all socio-demographic variables, only categories of education had significant differences for the SWBS total score and the Alienation subscale. The mean score for secondary to high school group of participants (M = 93.7, SD = 14.4) was significantly different from the postgraduate group (M = 100.467, SD = 12.2). These results also show that participants who had secondary to high school level of education reported statistically significantly lower mean scores on the alienation subscale than those who had postgraduate level of education. For the PEWB subscale, men had significantly higher average scores than women. There were no other significant differences for the categories of the demographic variables.

< Table 4 about here >

Discussion

This paper examined the psychometric properties and socio-demographic distribution of the Arabic version of the SWBS using the total score and three subscale scores on a sample of Jordanian Arab Christians. The factor analysis suggested a three-factor structure with each subscale having an adequate internal reliability as

determined by Cronbach's alpha. The socio-demographic distributions of the SWBS total score and subscale scores showed only significant variation by education (SWBS total score and Alienation subscale) and gender (PEWB subscale).

Some limitations to this study should be noted. Although the sample was reasonably large, findings in the present study may not be generalizable to other Jordanian Arab Christians as it was a convenience sample primarily from the northeastern region of Jordan. The statistical methods employed to assess the psychometric properties were conventional, as far as they go, but other tests for aspects of reliability and validity, such as test-retest reliability, discriminant and convergent validity, were not possible with these data. Further empirical research is needed to support the reliability and validity of the Arabic version of the SWBS using various Arab samples, samples of other ethnic groups within the Arabic culture, and of faiths other than Islam. Such studies would strengthen the validity of this scale. Further, the Jordanian Arab Christian community is made up of numerous denominations, but the majority is either Greek Orthodox or Protestant, which makes for a heterogeneous sample with small numbers for each denomination. Further studies may wish to consider recruiting sufficient numbers of the main denominations in order to investigate variation within the Arab Christian community by denomination.

However, this study is the first to examine the Arabic version of the SWBS using a sample of Arab Christians. The results did not raise any concerns over the applicability of the Arabic wording for Christians. The original translation from English to Arabic (Musa & Pevalin, 2012) indicated that some English words and phrases did not have an exact translation into Arabic and the translation process paid attention primarily

to the Islamic context of Arabic. The distributions of scores across some important socio-demographic variables are the first preliminary findings of norms for the SWBS in Arab Christians.

The SWBS scores obtained showed that Jordanian Arab Christian participants had high average levels of spiritual well-being with an overall sample mean of 95.2 with a negative skewness. This result is reasonably consistent with other studies conducted in non-Western cultures. Musa and Pevalin (2012) found a mean value of 103.9 in their sample of Jordanian Muslims, and Imam, Abdul Karim, Jusoh and Mamad (2009) found a mean value of 92.6 in their Malaysian sample. The descriptive statistics of the SWBS and its subscales scores in the present study revealed a non-normal distribution scores, with a negative skewness. Our findings are consistent with those of other studies that found that the SWBS and its subscales suffered from ceiling effects (violation of the normal distribution assumption), usually with a negative skewness, when used in religious and/or healthy samples (Bufford, Paloutzian, & Ellison, 1991; Ledbetter, Smith, Vosler-Hunter, & Fischer, 1991). For example, Ledbetter et al. (1991) analyzed the data obtained from means, standard deviations, and lower and upper T-scores of 17 samples using the SWBS. Their analysis showed that the mean for most samples exceeded a score of 100 and tended to be negatively skewed. Moreover, their results showed that in all 17 samples the SWBS can measure scores four standard deviations below the mean, but only in two samples the SWBS can measure scores two standard deviations above the mean.

The significant variation of SWBS scores by education in this sample is consistent with those found by Musa and Pevalin (2012) but other studies which have

examined the association with education have not found significant differences in spiritual well-being (Aly, 2010; Genia, 1996; Musgrave & McFarlane, 2004). These studies were conducted on Western Christian and Jewish samples and suggest that the relationship between education and spiritual well-being may be context/culturally specific and is worthy of further investigation.

The factor analysis revealed three factors, representing Positive Existential Well-Being, Affiliation, and Alienation subscales. The distribution of items to these three factors indicated that the majority of negative vertical (religious) items and horizontal (existential) items loaded substantially onto one factor (Alienation). This three-factor structure is different from the original distribution of the vertical (religious) and horizontal (existential) items into two factors as determined by the scale developers using a sample of Western religious university students (Paloutzian & Ellison, 1982) and as found by several subsequent studies using various samples (Fernander et al., 2004; Genia, 2001; Kirschling & Pittman, 1989; Rovers & Kocum, 2010; Taliaferro et al., 2009). However, the three-factor structure in the present study is similar to the factor structure found by Scott et al. (1998) using a sample of psychiatric inpatients. Scott et al. (1998) found a three-factor solution to the SWBS that consisted of *Affiliation*, *Alienation*, and *Dissatisfaction with Life*. Other studies also suggest that the SWBS contains more than two factors (Ledbetter et al., 1991; Miller et al., 1998).

It is apt to make a comparison between findings of this study using Jordanian Arab adult Christians and findings of Musa and Pevalin (2012) using Jordanian Arab adult Muslims regarding responses to the Arabic version of the SWBS. Both of these studies revealed that the Arabic version of the SWBS was psychometrically sound and

can be used as an instrument to measure levels of spiritual well-being for Jordanian Arab Muslim and Christians, despite that the translation process of the SWBS paid attention primarily to the Islamic context of Arabic. The high average level of SWBS and the significant variation of SWBS total score by education in the current sample is also consistent with those found by Musa and Pevalin (2012). However, there was a variation in factor structure of the Arabic version of the SWBS and in association between income and SWBS. The resultant three-factor structure to the Arabic SWBS in this study was different from that found by Musa and Pevalin (2012) who found a two-factor structure, representing *religious well-being* and *existential well-being*. It has been reported in the literature that different religions may shape responses to the spiritual life of individuals differently (Bhui, King, Dein, & O'Connor, 2008). Variation of factor structure of Jordanian Arab Muslims and Christians is an area of future studies using a new and different line of research. While income had a non-significant association with the SWBS in this study, it had a significant association with the SWBS among Arab Muslims. One possible explanation for the non-significant association of SWBS and income is the homogeneity of income among Arab Christians compared to their Arab Muslim counterparts. While all Christians belong to the middle or upper classes, most Arab Muslims belong to the lower-middle income classes.

The results from this study, the first to use the Arabic version of the SWBS on a sample of Arab Christians, suggest that it can be used in this context. They also tend to support Ellison's (1983) notion that the SWBS is a nonsectarian instrument that can be utilized by individuals from different cultures and using the SWBS within different cultures may shape the responses to the scale. It is clear that there is variation across

samples in responses to the SWBS and consequently its subscale structure. Our findings suggest further investigation into the cultural and social processes that shape responses to the questions in the SWBS. The grouping of items through the factor analysis into the factor Positive Existential Well-Being (positive horizontal aspects) suggest that having positive thoughts and relationships toward other people and by doing gratuitous activities are important to the spiritual life of Jordanian Arab Christians. It could be that the horizontal relationships with self, others, and the environment are increasingly meaningful when the individuals' vertical relationships with God are enhanced so the individuals' value system is in equilibrium and harmony? To uncover these processes that shape the scale responses will require a new and different line of research.

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Table 1

Rotated Factor Structure of the Arabic SWBS. Jordanian Arab Christian Community Sample, N=340

Factor		Items	Factor 1	Factor 2	Factor 3
1	4	I feel that life is a positive experience	**.793**	.153	.323
	8	I feel very fulfilled and satisfied with life	**.672**	.266	.475
	10	I feel a sense of well-being about the direction my life is headed in	**.599**	.147	.477
	12	I enjoy much about life.	**.733**	.238	.357
	14	I feel good about my future	**.784**	.218	.396
	16	I feel that life is full of conflict and unhappiness	**.324**	.194	.242
	20	I believe there is some real purpose for my life	**.637**	.416	.397
2	3	I believe that God loves me and cares about me	.402	**.460**	.100
	5	I believe that God is interested in my daily situations.	.538	**.573**	.260
	11	I believe that God is concerned about my problems	.438	**.690**	.293
	17	I feel most fulfilled when I'm in close communion with God	.223	**.737**	.243
	19	My relation with God contributes to my sense of well-being	.331	**.721**	.350
3	1	I don't find much satisfaction in prayer with God.	.326	.085	**.494**
	2	I don't know who I am, where I came from, or where I'm going	.379	.000	**.627**
	6	I feel unsettled about my future	.438	.170	**.543**
	7	I have a deep relationship with God.	.393	.502	**.528**
	9	I don't get much strength and support from my God.	.341	.166	**.770**
	13	I don't have a satisfying relationship with God.	.293	.158	**.706**
	15	My relationship with God helps me not to feel lonely	.210	.344	**.563**
	18	Life doesn't have much meaning	.409	.023	**.446**

Mean of Communalities= .58

Table 2

Descriptive Statistics of the Arabic SWBS and its Subscales. Jordanian Arab Christian Community Sample, N=340

Factor	Scale	No. of items	Mean	SD	Min	Max	Z-score of Skewness S/SE	Z-score of Kurtosis K/SE	Cronbach's alpha
-	SWBS	20	95.2	13.1	54	120	-2.80	-1.64	.87
1	PEWB	6	28.6	5.1	11	36	-8.61	+6.61	.83
2	Affiliation	7	37.6	4.5	14	42	-5.54	+.2.09	.77
3	Alienation	7	29.1	6.1	14	42	-0.84	-2.56	.71

PEWB, positive existential well being; SD, standard deviation; S, skewness; SE, standard error; K, kurtosis

Table 3

Spearman Rho Correlations Between the SWBS and its Subscales. Jordanian Arab Christian Community Sample, N=340

	SWBS	PEWB	Affiliation
PEWB	0.85**		
Affiliation	0.81**	0.62**	
Alienation	0.85**	0.58**	0.52**

**$p < 0.01$ (2-tailed).

Table 4

Distribution of the Arabic SWBS and its Sub-scales by Demographic Variables. N=340.

Demographic variables	Categories	N	SWBS		PEWB		Affiliation		Alienation	
Gender	Men	106	95.9	(12.4)	29.4*	(4.5)	37.3	(4.5)	29.1	(5.5)
	Women	234	94.9	(13.4)	28.2	(5.3)	37.7	(4.6)	29.1	(6.4)
Marital Status	Single	131	96.0	(13.3)	28.6	(5.2)	37.8	(4.2)	29.6	(6.5)
	Married	205	94.6	(12.8)	28.5	(4.8)	37.5	(4.5)	28.6	(5.9)
	Divorced (or) Widowed	4	97.8	(23.5)	29.3	(11.6)	33.5	(13.3)	35.0	(2.2)
Income	< 300JD	37	96.5	(13.6)	30.0	(5.9)	37.5	(6.3)	28.9	(6.3)
	300-399JD	58	94.5	(12.7)	28.6	(4.6)	37.5	(4.6)	28.5	(6.5)
	400-499JD	60	94.8	(12.8)	27.8	(5.0)	37.7	(3.8)	29.3	(6.1)
	>=500JD	841	95.2	(13.3)	28.5	(5.0)	37.5	(4.4)	29.2	(6.0)
Education	Secondary to High	67	93.7*	(14.4)	28.1	(5.9)	37.5	(5.3)	28.1*	(6.5)
	school	71	96.2	(13.0)	28.9	(4.7)	38.0	(4.3)	29.4	(6.3)
	College	167	94.2	(12.6)	28.3	(5.0)	37.1	(4.4)	28.8	(5.9)
	Undergraduate	35	100.7*	(12.2)	30.3	(4.1)	38.9	(3.8)	31.5*	(6.1)
	Postgraduate									
Employment Status	Working	227	94.9	(12.6)	28.7	(4.9)	37.5	(4.4)	28.7	(5.9)
	Retired	27	96.2	(12.8)	29.0	(4.3)	37.2	(4.7)	30.0	(5.8)
	Not working	86	95.5	(14.6)	28.2	(5.6)	37.7	(5.0)	29.6	(6.8)

Note: JD, Jordanian Dinars (1US$=0.71JD); * Non-parametric tests
$p < 0.05$; standard deviations in brackets