Initial Development of the Brief Arab Religious Coping Scale (BARCS)

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This project aimed to develop a brief and culturally sensitive measure of positive religious coping that could be useful in research with Arab Americans of both Christian and Muslim affiliations. In Study 1, 62 items were generated based on previous religious coping measures and knowledge of religious practices in the Arab community. Seventy-six community respondents completed this pilot questionnaire. Based on Rasch rating scale analysis, 15 items were retained for the Brief Arab Religious Coping Scale (BARCS). In Study 2, the BARCS was completed by an Internet sample of 599 Arab Americans. The measure demonstrated excellent reliability and strong internal validity, although it did not correlate with acculturation stress and depression as expected. Limitations and suggestions for future research are discussed.

Keywords *BARCS, Christian, Muslim, religion, Religious coping*

Religious coping is the use of religious beliefs and practices in order to manage personal problems or life stressors. When faced with stress, people may experience relief or discover solutions to their problems through, for example, praying to God, increasing religious rituals, or turning to religious leaders for support. Numerous researchers have chosen to focus on the construct of "religious coping" rather than religiosity per se. Religious coping has been found to be a significantly better predictor of positive mental health outcomes (such as reduced depression and anxiety) than simple religious affiliation or orientation. Much of the religious coping literature has focused on people facing chronic illness, medical or psychiatric hospitalization, or bereavement. Religious coping has been demonstrated to have moderating, mediating, deterring, and buffering effects on stress (Fabricatore, Handal, Rubio, & Gilner, 2004; Harrison, Koenig, Hays, Eme-Akwari, & Pargament, 2001; Pargament, 1997; Pargament & Brant, 1998; Tix & Frazier, 1998).

Notwithstanding the volume of literature documenting the advantages of religious coping, some researchers have reported deleterious effects of religious coping on mental health, thus generating a controversy over the true efficacy of this coping. Pargament and Brant (1998) attempted to resolve this controversy by enumerating several types of helpful (positive) and harmful (negative) religious coping styles based on previous outcome studies. They wrote that helpful religious coping strategies include gaining spiritual support from God, collaborating with God to solve a problem, obtaining congregational support, and attributing the stressful situation to beneficent causes (e.g., as love from God). Types of religious coping associated with poorer outcomes include dissatisfaction with the congregation, discontent with God, feelings of abandonment, and framing the stressor negatively (e.g., as a punishment from God). Coping styles that have shown mixed results in the literature are using rituals in times of crisis, deferring the stressor to God's care, and directly solving problems independently from God. A meta-analysis by Ano & Vasconcelles (2005) found that positive religious coping was associated with successful adjustment to stress, whereas negative religious coping was associated with negative psychological outcomes. Studies have reported more frequent use of positive religious coping compared to negative religious coping among research participants (Harrison et al., 2001).

Although studies of religious coping have been conducted with persons from larger ethnic groups in the U.S. such as African Americans, Asians, and Hispanics, research with persons from Arab (Middle Eastern/ North African) origin have been scant. This is an important area for exploration, particularly as the sociopolitical climate in the post-September 11 era has intensified the acculturation stressors this population faces, including discrimination and rejection by the mainstream culture (Arab American Institute Foundation, 2002; Ibish, 2003).

It stands to reason that religious coping may be an effective strategy for Arab Americans facing acculturative stressors because religion is an

integral component of the Arab culture (Abudabbeh, 1997) and religious practices are commonly used by Arabs in the Middle East to contend with stressors related to mental health problems (Al-Krenawi, 2005). For example, an interview study comparing British and Saudi Arabian patients with schizophrenia found that the Saudi Arabian patients were more likely to utilize religious strategies to cope with auditory hallucinations than their British counterparts (Wahass & Kent, 1997). Some preliminary research has supported this pattern among American Arabs. An interview study with Christian Jordanian female immigrants to the U.S. found that these women participated in church activities as a way to recreate a sense of ethno-cultural familiarity and develop social support networks and other resources within the context of managing acculturation stressors (Hattar-Pollara & Meleis, 1995). In a study of Ohio Muslims' alternative sources of mental health comfort, 90.8% of the 240 Arab participants reported using prayer "always" or "sometimes," 84.6% reported reading Qur'an "always" or "sometimes," and 40.8% spoke with an imam "always" or "sometimes" (Khan, 2006, p. 33). Moreover, Ali, Milstein, and Marzouk (2005) reported that mosques with predominantly Arab congregations saw an increase in persons seeking support from their imams to cope with post-September 11 discrimination. Although none of these studies utilized specific measures of religious coping, they provide evidence that religion is often a key source of support for Arabs and Arab Americans coping with stress and problems, particularly those who are closely affiliated with their cultural heritage.

One of the potential challenges in conducting empirical research examining the use of religious coping among Arab Americans is that measures of religious coping have not been developed specifically for this population, which includes adherents to both the Christian and Muslim faiths. Measures such as the Religious Problem-Solving Scale (Pargament, Kennell, Hathaway, Grevengoed, Newman, & Jones, 1988) and both long and brief forms of the RCOPE (Pargament, Koenig, & Perez, 2000; Pargament, Smith, Koenig, & Perez, 1998) may not be sensitive to Arab culture. These measures include concepts that may be foreign to the Arab cultural worldview (e.g., conceptually placing God on the same level as humans such as collaborating "together" to put plans into action) and items that may be culturally taboo to admit (e.g., anger towards God, questioning faith or God's power, asking why the stressful event happened).

Existing measures are also not sensitive to both Christian and Muslim Arabs Americans. For example, the Religious Coping Activities Scale (Pargament, et al., 1990) was developed with feedback from Christian clergy and includes some primarily Christian concepts such as confession of sins. On the other hand, religious coping measures that have been developed or modified for Muslim populations (e.g., Ai, Peterson, & Huang, 2003; Khan & Watson, 2006) may not be relevant for Christian Arabs and are not available in English.

Our purpose in this research is to develop a measure of religious coping that can be used in future studies with Arab American samples that include adherents to both Christianity and Islam. Most of the existing religious coping measures are lengthy, which renders them cumbersome in studies that include measures of multiple variables, and thus we aimed to develop a brief instrument. Because of the short length of the desired measure, we decided to focus on positive religious coping strategies. A positive religious coping measure would be seen as more useful in predicting healthy mental health outcomes, and it allowed us to avoid inclusion of negative religious coping items that may be perceived as offensive or insensitive to Arabs as described above. Moreover, to maximize the utility of the measure we aimed to ask participants about their general use of religious coping when faced with stressors (i.e., coping style) rather than how they responded to a specific event.

This paper is divided into two parts. The first study describes the process we used to construct the 15-item Brief Arab Religious Coping Scale (BARCS). Objectives were to: (1) examine if the structure of the BARCS fit with theoretical expectations, (2) ensure that item reliability was large enough to indicate consistency of the items, (3) ensure that person reliability was sufficiently large enough to differentiate people on the religious coping scale, (4) examine any gaps in the measure or sample, and (5) determine the optimal number of rating scale points that were salient to the respondents. The second study used a larger and more diverse sample of Arab Americans to further examine the psychometric properties of the BARCS and its relationship with other variables. Based on the previously mentioned literature, we anticipated that persons with higher Arab ethnic identity would be more likely to utilize religious coping, and that such coping would be associated with reduced acculturation stress and less depression.

STUDY 1

Methods

PARTICIPANTS

A total of 76 Arab Americans participated in the first study. Respondents' ages ranged from 18 to 70, with a mean age of 30.0 ($SD = 12.7$). A total of 42.1% was Christian, and 57.9% was Muslim. Participants came from Lebanese (34.2%), Egyptian (28.9%), Palestinian (15.8%), and mixed Arab (10.5%) backgrounds, with smaller percentages of people with heritages from Syria, Iraq, Oman, Qatar, Libya, Morocco, and Tunisia.

PROCEDURES

Informed consent and study procedures were reviewed and approved by the University of Toledo Institutional Review Board. The pilot survey with

potential items was distributed by non-random convenience sampling in the Northwest Ohio area. Emphasis was placed on obtaining data from both Muslim and Christian Arabs of varying levels of religious involvement. This included Arab congregants and community leaders at two large majority-Sunni mosques and two predominantly Arab churches (Coptic Orthodox and Antiochian Orthodox). Leaders of the University of Toledo's Arab Student Union and Coptic Club distributed the questionnaire at the university and among their family and friends in the local community. Demographic questions were kept to a minimum to avoid suspicion of our research motives and fear of identification among participants, particularly as questions related to religious activity may be perceived as threatening or suspect in the post-September 11 climate. Participants were encouraged to provide feedback regarding the pilot items.

The pilot questionnaire consisted of 62 items, most of which were modeled after items from two of the longest and most comprehensive religious coping scales: the Ways of Religious Coping Scale (Boudreaux, Catz, Ryan, Amaral-Melendez, & Brantley, 1995) and the RCOPE (Pargament et al., 2000). The Ways of Religious Coping Scale consists of 40 items that assess the respondent's frequency of internal (private, such as praying) and external (social, such as seeking support from clergy) religious coping behaviors. The RCOPE contains 115 statements that fall into five categories: (1) coping to find meaning, (2) coping to gain control, (3) coping to gain comfort and closeness to God, (4) coping to gain intimacy with others and closeness to God, and (5) coping to achieve a life transformation. Additional items were added based on researchers' knowledge of Arab religious coping practices.

The questionnaire was in English. Respondents were asked to rate the frequency with which they had utilized the listed religious coping practices when they previously experienced stressors or a problem. Responses fell on a 5-point Likert-type scale: 0 = "not used at all/ does not apply," 1 = "used sometimes," 2 = "used often," 3 = "used very often," and 4 = "used always." All items were worded to include both Christian and Islamic references, and to reflect cultural sensitivity. For example, Arabic words such as *du'aa* (supplication), *surat* (Qur'anic chapter), and *halaqa* (religious learning gathering) were included. The possible total score range was 0–248. Supporting the varied levels of religious coping among respondents, the actual score range was 10–240, with a mean total score of 152.67 (*SD* = 49.75).

RESULTS

Scale development. The Rasch Rating Scale Model (Wright & Masters, 1982) was used to examine the psychometric properties of the 62 pilot items in order to select the ones most effective in measuring the underlying construct. The construct of "religious coping" was conceptualized as religiously based

actions a person may take to reduce stress or to cope with a problem. Items reflecting low levels of this construct would measure coping behaviors that take little effort to engage in and are easy to endorse by the majority of respondents; for example, simply remembering God or supplicating to God for help. Items reflecting higher levels of the construct would be more difficult to endorse because they necessitate greater religious commitment and effort, such as visiting a religious institution, attending or teaching a religious class, or meeting with a religious leader.

For the current study, Wright and Stone's (2004) recommendations for identifying items that do not fit to the underlying construct were followed. The mean of the 62-item pilot scale's infit mean square scores was 1.01, with a mean standard deviation of .38. Therefore, items with infit mean square scores above 1.39 were removed. The same procedure was used to remove items with outfit mean square scores above the mean outfit score plus mean standard deviation (1.05 + .47 = 1.52). Twelve items were removed, including statements related to bargaining with God, praying to a religious figure, and praying for a miracle.

To identify item pairs that were redundant, the largest standardized residual correlations were identified, and the item that demonstrated the best fit to the scale (using infit mean square scores and item-scale correlations) were retained while the other item was dropped. For items with similar psychometric properties, the item that was easier to understand (based on participants' comments or criticisms) was retained. Seven items were omitted.

Next, 18 items were removed due to one or more of the following reasons: (1) respondents' written or verbal criticisms that the item was difficult to understand or not applicable to their faith, (2) redundancy of content with another item, and (3) redundancy of item difficulties on the logit scale indicating that they targeted similar levels of the construct. The majority of criticisms and questions from participants related to items that used the word "spirituality" or abstract concepts such as praying for "transformation" or "inspiration."

Rasch rating scale analysis was applied to the remaining 28 items to further assess the utility of these items. Three items that demonstrated poor fit based on procedures described above were removed. To identify item pairs that were redundant, the largest standardized residual correlations were identified. From each of the eight pairs of items, the item that demonstrated poorest fit to the scale as described above were dropped. Finally, three pairs of items that overlapped on the logit scale were identified, from which the items that demonstrated poorer psychometric properties (e.g., fit scores, item-scale correlation) were removed.

The remaining 15 items demonstrated acceptable fit statistics; the mean error score was .14. Rasch modeling can offer support for construct validity as the observed unidimensional hierarchical ordering of items on the logit

scale should match the underlying theoretical conceptualization, or latent trait (Bond & Fox, 2007). The order of the items on the logit scale was indeed consistent with theoretical expectations in that religious behaviors that took less effort and time were easiest to endorse, whereas behaviors necessitating greater religious commitment and energy were more difficult to endorse.

Category Functioning. In order to assess how the respondents were interpreting and using the five-point rating scale, an analysis of category functioning was conducted for the 15 items. Category diagnostics (Table 1) revealed that the fit statistics for each category were within the acceptable limits, indicating that respondents used the categories in a predictable manner. Although the step calibrations (i.e., the difficulty of choosing one category over the previous category) were ordered in the expected direction, the magnitude of difference between difficulty estimates for choosing "used very often" over "used often" was very small (0.17), indicating that the psychological distance between these categories was not distinct. This similarity in meaning between those two categories was demonstrated in the graphical depiction of the category probability curves, where the category "used often" was never the most probable response along the continuum. This indicated that it was not contributing useful and distinct information to the data and hence might give more reliable information if it were combined (collapsed) with the adjacent category "used very often" in subsequent analyses.

Reliability. Reliability of the 15-item BARCS was assessed with Rasch item and person reliabilities as well as separation statistics. Rasch reliability indices are analogous to Cronbach's alpha[1] in that they represent the percentage of observed response variance that is reproducible. The possible range is 0–1 and scores above.80 are considered acceptable. Item reliability, which estimates the likelihood that the position of items on the scale would be replicated if the measure were given to another sample of persons with similar religious coping levels, was.95. The item separation index was 4.54, indicating that the 15 items spread over at least four different intensities of religious coping. Person reliability, which indicates the replicability of person ordering on the scale if the same sample were given a similar set of items that measure the same construct, was.90. Person separation was 3.06, indicating that the items differentiated respondents into at least 3 different levels of religious coping.

The item-person map was examined to evaluate if the items were useful in targeting the range of participant religious coping levels. The 15 items spanned between −1 to +2 logits with the majority of persons also spanning this range. However, there were 12 persons towards the higher part of the map (+3 to +5 logits) who were not targeted. These were presumably religious leaders and religiously active respondents who were likely to endorse all the religious coping items.

Table 1 Category Functioning of the 15-Item BARCS in Study 1 and Study 2

Category label	Study 1						Study 2					
	Observed count	Category measure	Infit MNSQ	Outfit MNSQ	Step calibration	Step S.E.	Observed count	Category measure	Infit MNSQ	Outfit MNSQ	Step calibration	Step S.E.
Not used at all/ does not apply	108	(−2.64)	1.33	1.34			2, 793	(−2.03)	.91	1.02	None	
Used sometimes	194	−.95	.96	1.00	−1.38	.12	1, 800	−0.56	1.04	.90	−.64	.03
Used often	172	.05	.83	.71	.03	.09	1, 691	0.56	1.00	1.06	−.02	.03
Used very often	249	.99	.89	1.08	.20	.09						
Used always	348	(2.48)	.99	1.02	1.14	.09	2, 071	(2.04)	1.11	1.18	.66	.03

Note. MNSQ = mean square; S.E. = standard error.

STUDY 2

Methods

PARTICIPANTS

A total of 599 Arab Americans residing in 34 states and Washington, D.C. participated in the second study. The age range was 18 to 81, with a mean age of 29.3 (*SD* = 11.1). The sample was 60.9% female and 37.2% male. Nearly half the sample was American-born (47.1%) and nearly half was born in an Arab state (46.9%). Participants represented 19 of the 22 member states in the Arab League of Nations[2]; the largest subgroups were of Palestinian (24.5%), Egyptian (19.9%), Lebanese (16.2%), Syrian (6.8%), Iraqi (5.0%), and mixed Arab (15.4%) backgrounds.

Participants' religious affiliations were Muslim (70.5%), Christian (21.9%), None/atheist (3.8%), Druze (1.0%), and Other (1.0%). The survey included an option for writing a specific religious denomination. From the 422 Muslim participants, 251 wrote that they were Sunni and 32 wrote that they were Shi'a. Christian affiliations with highest representations included Orthodox (Antiochian, Greek, Coptic, and Syrian) and Catholic (including Maronite and Roman Catholic), with 1–2 participants each of other denominations (e.g., Baptist, Episcopalian, Lutheran, Presbyterian).

MEASURES

In addition to the newly developed BARCS, additional acculturation and mental health measures were administered in order to investigate concurrent validity.

Brief Arab Religious Coping Scale. The 15-item BARCS that was developed in Study 1 is shown in Appendix A. To reduce response set, items were arranged so that they did not follow the order of response difficulty. Based on results of category functioning diagnostics in Study 1, the rating scale was shortened to four points: 0 = "not used at all/does not apply," 1 = "used sometimes," 2 = "used often," and 3 = "used always." Respondents' scores were the total sum of the 15 items and ranged from 0 to 45.

Vancouver Index of Acculturation- Modified Arab Version. The VIA-Arab was developed to assess acculturation among Arab Americans by the first author (Amer, 2005) based on modifications to the original measure introduced by Ryder, Alden, and Paulhus (2000). It contains two subscales measuring Arab ethnic identity and mainstream American identity. Each subscale consists of 10 statements reflecting cultural values and behaviors that are rated on a five-point Likert scale ranging from "strongly disagree" to "strongly agree". For the present study the Arab subscale was used; Cronbach's alpha was.88.

SAFE Acculturation Stress Scale-Revised. The original SAFE Acculturation Stress Scale (Mena, Padilla, & Maldonado, 1987) is a 24-item questionnaire rated on a 6-point scale that assesses stressors associated with the immigration and acculturation process. In the current study four items were added to capture acculturation stressors unique to the Arab community post-September 11 (negative media portrayals, ethnic discrimination, and national and international policies that unfairly target Arabs). Based on suggestions from a previous study examining the psychometric properties of the SAFE with Arab Americans (Amer, 2002), the response scale was shortened to four points ranging from "not at all stressful/have not experienced" to "very stressful". Cronbach's alpha for the present study was .89.

Center for Epidemiologic Studies Depression Scale. The CES-D (Radloff, 1977) is a widely used tool for assessing depression in community samples. Respondents rate how frequently they experienced 20 symptoms of depression over the past week on a 4-point scale ranging from "rarely or none of the time (less than 1 day)" to "most or all of the time (5–7 days)." The CES-D has been successfully used and shown to be culturally sensitive, reliable, and valid in studies with Arabs residing in the Middle East (Abdel-Khalek, 2004; Al-Darmaki, 2003; Ghubash, Daradkeh, Al Naseri, Al Bloushi, & Al Daheri, 2000) and North America (Amer, 2002; Gaudet, Clément, & Deuzeman, 2005; Rice et al., 2006). Cronbach's alpha for the present study was .91.

PROCEDURES

Internet-based procedures were used in order to obtain a larger and more diverse sample of Arab Americans that could have greater generalizability. Previous authors (Amer & Hovey, 2007; Barry, 2001) have recommended Internet methods for Arab American samples in order to reduce stigma, lessen fears of being identified, and offer more transparency of researchers' motives (e.g., through e-mail exchange between participant and researcher). Convenience snowball-sampling was used: E-mail invitations were sent to personal contacts as well as Arab community leaders, cultural centers, churches, mosques, organizations, and university clubs. Participants completed the measures at a form-based Web site. Twelve participants were excluded from analysis because they did not complete all the measures discussed in this paper.

RESULTS

Category Functioning. When the "used very often" and "used often" categories were combined for Study 2, the step calibrations improved and the category fit remained acceptable. Thus, the 4-category version of the

rating scale functioned better than the original 5-category version in defining the distinctions among the responses (See Table 1).
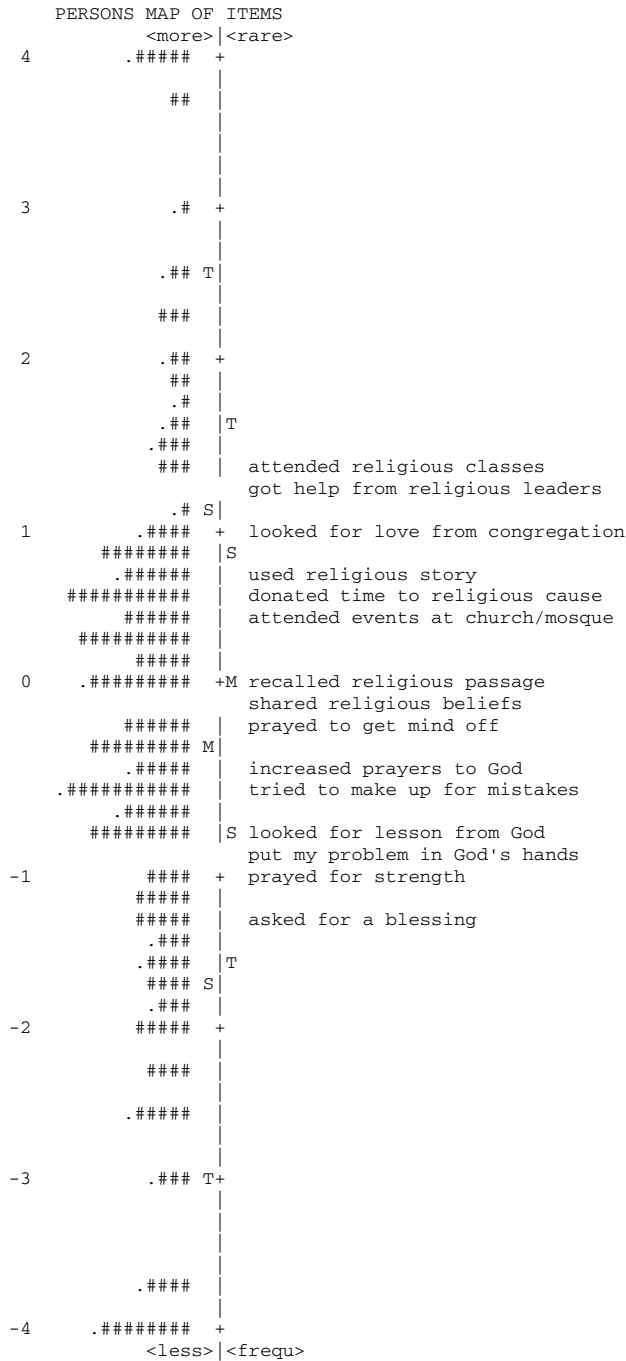
Reliability. Item reliability, which estimates the likelihood that the position of items on the scale would be replicated if the measure were given to another sample of persons with similar religious coping levels, was.99. The item separation index was 13.72, indicating that the 15 items spread over at least 13 distinct levels of religious coping. Person reliability, which indicates the replicability of person ordering on the scale if the same sample were given a similar set of items that measure the same construct, was.89. Person separation was 2.88, indicating that the items differentiated respondents into nearly three different levels of religious coping.

The item-person map (Figure 1) was examined to evaluate the usefulness of items in targeting the range of participant religious coping levels. The 15 items targeted the majority of participants in the mid range of the logit scale. Smaller clusters of respondents fell at the lower end and upper end of the scale where there were no items to differentiate among those persons.

Validity. The 15-item BARCS (Appendix A) demonstrated strong face validity. It included religious behaviors that are commonly viewed as methods of coping with problems or stress such as praying, putting the problem in God's hands, or obtaining support from one's congregation. The content of these items was consistent with previously established measures of religious coping and was relevant to religious practices in the Arab world.

As shown in Table 2, fit statistics indicated that all items adhered to the underlying construct. The error estimates were small (.05-.08), indicating that each item was statistically distinct from one another. The logit order of the items (see Table 2 and Figure 1) further supported the validity of the unidimensional theoretical construct "religious coping." The easiest items to endorse reflected behaviors needing the least amount of time and energy such as asking God for strength or a blessing, or turning the problem over to God. Greater religious coping necessitated additional energy and effort such as increasing prayers and recalling relevant religious passages. The most difficult items to endorse reflected even higher religious commitment and involvement in the religious community such as attending religious events, donating money, and seeking support from the congregation or religious leaders. This order of the items replicated the general order produced in Study 1.

To examine convergent validity, Pearson's product-moment correlations were used to assess the relationship between the BARCS and other measured variables. Greater use of religious coping was associated with higher levels of Arab ethnic identity as measured by the VIA-Arab ($r = .13$, $p = .001$). Religious coping did not correlate with acculturation stress as measured by the Revised SAFE, or depression as measured by the CES-D.

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                  .###### |   used religious story
               ########### |   donated time to religious cause
                    ###### |   attended events at church/mosque
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Note. Each '#' corresponds to 3 persons.

Figure 1 Person-Item Map for BARCS Study 2. *Note.* Each '#' corresponds to 3 persons.

Table 2 Item Measure Order and Fit Statistics for 15-item BARCS (Study 2)

Item	Measure	Standard Error	Infit mean square	Infit Z-standardized	Outfit mean square	Outfit Z-standardized	Point-Measure Correlation
Got help from religious leaders	1.26	.06	1.07	1.0	.91	-.7	.68
Attended religious classes	1.26	.06	1.16	2.2	.98	-.1	.67
Looked for love from congregation	.96	.06	1.13	2.0	1.02	.2	.68
Used religious story	.72	.06	.84	-2.6	.75	-2.9	.73
Donated time to religious cause	.61	.06	1.03	.5	1.05	.6	.70
Attended events at church/mosque	.39	.06	.97	-.5	.95	-.5	.71
Shared religious beliefs with others	.06	.05	.97	-.5	1.09	1.1	.71
Recalled religious passage	-.06	.05	.90	-1.8	.85	-1.9	.74
Prayed to get mind off problems	-.13	.05	1.09	1.5	1.10	1.2	.70
Increased prayers to God	-.50	.05	.90	-1.7	.91	-1.1	.74
Tried to make up for mistakes	-.54	.05	1.44	6.6	2.05	9.9	.60
Looked for lesson from God	-.84	.06	.83	-3.0	.77	-2.9	.75
Put my problems in God's hands	-.89	.06	1.04	.7	1.03	.3	.71
Prayed for strength	-1.02	.06	.92	-1.2	1.31	3.2	.72
Asked for a blessing	-1.29	.06	.90	-1.6	.83	-1.8	.74
Mean of all items	.00	.06	1.01	.1	1.04	.3	.74

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Christian-Muslim Differences. Christian and Muslim samples were examined separately to ensure that the BARC's psychometric properties were consistent across both groups. Both groups shared similar reliability statistics, item fit statistics, and ordering of the items on the logit scale. Although both groups endorsed comparable levels of Arab ethnic identity, Muslims reported greater use of religious coping ($t = 2.92$, $p = .004$), higher acculturation stress ($t = 5.05$, $p < .001$), and more depression ($t = 3.30$, $p = .001$). Correlations among the variables yielded similar results for the two subsamples.

DISCUSSION

The aim of this study was to develop a brief measure of positive religious coping for Arab Americans that would be relevant for persons of both Christian and Muslim faiths. In developing this measure, we attempted to use approaches that were culturally sensitive. For example, in Study 1 we engaged religious, community, and university leaders in providing feedback on the items and distributing the pilot questionnaire. We carefully selected pilot items that we believed would be most relevant to the population, and avoided asking many demographic questions to reduce participants' fear of being identified. In addition to concerns about confidentiality, Arabs and Muslims may be unwilling to participate in research due to suspicions of researchers' motives and stigma associated with mental health questionnaires (Abu Raiya, Pargament, Stein, & Mahoney, 2007; Barry, 2001; Rippy & Newman, 2006). We therefore opted to use Internet data collection procedures for Study 2, which allowed for greater anonymity and opportunity for e-mail exchange between potential participants and researchers. This approach generated a large sample that was uniquely diverse in terms of geographical location, religious affiliation, and immigration status.

Although we began the research with a high level of cultural expertise with this population, we faced several challenges. Despite being members of the Arab community themselves, the first and fourth authors found that even friends and relatives were reluctant to participate due to fears that the information gathered could inadvertently be used to harm the community. Many also reported discomfort with being associated with a "psychology" project. Many potential participants with family origins in North America and Middle East, such as Coptic Egyptians, did not wish to complete the surveys because they did not self-identify with the term "Arab". Moreover, in Study 1, participants expressed confusion and criticism when answering questions related to spirituality. This raises uncertainty about the widely accepted distinction between "spirituality" and "religiosity"; for Arab Americans, spirituality may be intricately interwoven in the fabric of organized religious practice. This finding echoes writings by previous authors

(e.g., Hill et al., 2000; Hill & Pargament, 2003) that many people do not distinguish between overlapping experiences of spirituality and religiosity.

Despite challenges faced in developing and piloting the measure, the 15 items retained in the final BARCS showed encouraging psychometric properties for a new measure. The reliability indices were exceptionally high for such a short measure, indicating that religious coping can be reliably measured without overwhelming respondents with many questionnaire items. The items had strong face validity and overlapped with concepts captured in existing measures of religious coping. Rasch analysis demonstrated that the items adhered to a theoretically meaningful underlying construct of "religious coping." Items that were easier to endorse reflected undemanding and common religious behaviors such as asking God for a blessing or for strength. Increasing levels of religious coping were associated with increasing levels of effort and time, such as practicing religious rituals, engaging in religious introspection and education, and donating time and money for religious causes. The highest levels of religious coping were measured by items reflecting engagement with the congregation and religious leaders, demonstrating a more long-term commitment or affiliation with the religious organization. These psychometric properties were similar for both Muslims and Christians, indicating that the measure successfully extracted religious coping experiences that were reliably and validly shared by both groups.

Although the 15 items spanned over 13 levels of religious coping, the measure was not able to satisfactorily differentiate religious coping levels among persons who reported very high or very low levels of religious coping. It is likely that religious leaders and persons with high religious commitment comprised the group that was clustered at the high end of the logit scale, and the majority of persons clustered towards the lower end were self-identified as atheist or not practicing a religion. Therefore, additional items or an alternative measure might be needed when conducting research with those specific groups.

Beyond the psychometric properties of the scale itself, we sought to investigate if this measure of religious coping would be associated with other variables in theoretically expected directions. Because religious involvement is viewed as an important component of the Arab culture (Abudabbeh, 1997), we expected that greater Arab ethnic identity would be associated with greater use of religious coping. This relationship was supported in the results, although the correlation was not large. One explanation for the weak correlation is the high level of ethnic identity shared by most participants (i.e., there was a restricted range).

Religious coping was not associated with either acculturation stress or depression in this study. This is surprising considering the wealth of previous studies that have documented the role of religiosity and religious coping in buffering against stress and depression (Fabricatore et al., 2004; Koenig & Larson, 2001; Koenig, McCullough, & Larson, 2001; Levin & Chatters, 1998;

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APPENDIX A

Appendix A Brief Arab Religious Coping Scale

Please read each statement carefully and select how often you have engaged in the following behaviors when you have experienced a STRESSFUL SITUATION OR PROBLEM.

0 = not used at all/ does not apply **1** = used sometimes **2** = used often **3** = used always

		0	1	2	3
1)	I prayed for strength.	☐	☐	☐	☐
2)	I looked for a lesson from God in the situation.	☐	☐	☐	☐
3)	I got help from religious leader/s.	☐	☐	☐	☐
4)	I recalled a passage from a religious text (e.g., Bible, Qur'an).	☐	☐	☐	☐
5)	I attended events at the church/ mosque/ temple.	☐	☐	☐	☐
6)	I put my problem in God's hands.	☐	☐	☐	☐
7)	I increased my prayers to God.	☐	☐	☐	☐
8)	I attended religious classes (e.g., Bible study, Islamic halaqa)	☐	☐	☐	☐
9)	I tried to make up for my mistakes.	☐	☐	☐	☐
10)	I asked God for a blessing.	☐	☐	☐	☐
11)	I used a religious story to help solve the problem.	☐	☐	☐	☐
12)	I shared my religious beliefs with others.	☐	☐	☐	☐
13)	I donated time to a religious cause or activity.	☐	☐	☐	☐
14)	I looked for love and concern from the members of my church/ mosque/ temple.	☐	☐	☐	☐
15)	I prayed to get my mind off my problem/s.	☐	☐	☐	☐

Note. Several participants suggested that when distributing the questionnaire at mosques or among religious persons, the word "masjid" may be substituted for the word "mosque".