



## **Analyzing the Spirituality of Muslim Experiential Religiousness: Relationships with Psychological Measures of Islamic Religiousness in Iran**

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### **Summary**

This investigation analyzed Islamic spirituality as measured by a Muslim Experiential Religiousness Scale. Iranian university and seminary students (N = 351) responded to this instrument along with the Psychological Measure of Islamic Religiousness (PMIR) and Perceived Stress and Self-Esteem scales. Muslim Experiential Religiousness correlated predictably with all PMIR subscales, Perceived Stress, and Self-Esteem, and mediated almost all relationships of the PMIR Islamic Beliefs subscale with religious functioning. When evaluated by participants, Muslim Experiential Religiousness items proved to be “rational” relative to their Muslim religious ideals. Women in an Islamic seminary scored higher on Muslim Experiential Religiousness than Islamic women in a more general university, and Muslim Experiential Religiousness also mediated the many other religious differences observed between these two student groups. These data most importantly identified the Muslim Experiential Religiousness Scale as a useful instrument for testing hypotheses about the dynamics of Muslim spirituality.

### **Keywords**

Islamic experiential religiousness, psychological measures of Islamic religiousness, Islamic beliefs, perceived stress, self-esteem, Iran, spirituality, Islamic spirituality

Progress in the psychology of religion rests, at least in part, upon the availability of two broad types of research instruments. General understandings of religious commitment require religious and psychological scales that can clarify the dynamics of faith across traditions. Other instruments must express key features of specific religions in ways that validly operationalize a tradition (Watson, 2011). Recent studies, for example, have produced an increasing array of measures for operationalizing Muslim traditions (e.g., Wilde & Joseph, 1997; Sahin & Francis, 2002; Dover, Miner, & Dowson, 2007; Jana-Masri & Priester, 2007; Abu Raiya, Pargament, Mahoney, & Stein, 2008; Khan & Watson, 2010). With these two types of measures available, researchers can explore relationships between the general and the particular in a manner that clarifies both. Recent use of religious orientation and various psychological scales to analyze Muslim commitments illustrates this possibility (e.g., Dover, Miner, & Dowson, 2007; Ghorbani, Watson, Ghramaleki, Morris, & Hood, 2000; Khan & Watson, 2006; Ghorbani, Watson, & Khan, 2007).

Research in the contemporary psychology of religion also demonstrates that religious commitment is not just about beliefs and practices, but also about a “search for the sacred” in the spirituality of a faith (Pargament, 2013, p. 257). In a further attempt to operationalize specifically Islamic traditions, a recent Iranian investigation initiated a research program dedicated to analyzing Muslim spirituality (Ghorbani, Watson, Geranmayepour, & Chen, 2013a). This research program rests upon the development of a new Muslim Experiential Religiousness Scale that uses *Qur’anic* perspectives to articulate an Islamic search for the sacred in themes of submission to, closeness to, and love of God.

‘Islam’ literally means ‘submission’ (Nasr, 2002), and a representative expression of submission in the Muslim Experiential Religiousness Scale says, “Experiences of submitting to God cause me to feel more vital and motivated.” Muslims submit to a God who is always already close by. The *Qur’an* says, for example, “He is with you wheresoever you may be, and He perceives whatsoever you do” (57:4). Submission, therefore, necessarily reflects a personal intention to make that closeness conscious, and the new scale exemplifies that goal in the self-report, “For me, the core of religious practices and ceremonies is that they help me achieve a close relationship with God.” Muslims also see God as being merciful and loving: “Say: ‘If you love God then follow me that God may love you and forgive your faults; for God is forgiving and kind’” (*Qur’an*, 3:31). As a consequence, the new scale assumes that love should define the relationship that is at the heart of the Islamic search for the sacred (e.g., “when I look deeply within myself, I understand that the experience of loving God is worth any effort in my life”). In its first use, this new 15-item

Muslim Experiential Religiousness measure proved to be unidimensional and displayed a strong internal reliability with Cronbach's alpha equal to .90 (Ghorbani, Watson, Geranmayepour, & Chen, 2013a).

Muslim Experiential Religiousness also correlated positively with Intrinsic and Extrinsic Personal Religious Orientations (Allport & Ross, 1967; Kirkpatrick, 1989) and displayed a direct tie with the more specific Islamic commitments recorded by the Muslim Attitudes toward Religion Scale (Wilde & Joseph, 1997). Associations with psychological adjustment appeared in a positive linkage with Satisfaction with Life (Diener, Emmons, Larsen, & Griffin, 1985) and in negative correlations with Anxiety and Depression (Costello & Comrey, 1967). This new instrument explained variance in religious and psychological functioning beyond that accounted for by religious orientations and also by Muslim attitudes, thereby documenting its incremental validity (see e.g., Piedmont, 1999; Piedmont, Ciarrochi, Dy-Liacco, & Williams, 2009). It also partially or fully mediated a number of religious orientation and Muslim attitude relationships with other measures. Islamic seminary students scored higher than general university students on this index of Islamic spirituality, and Muslim Experiential Religiousness partially or fully mediated the many other religious and psychological differences that appeared between these two student groups. In short, these results all supported the hypothesis that Muslim Experiential Religiousness expressed a form of religious consciousness that was central to a Muslim search for the sacred.

## **Present Study**

In general terms, the present investigation sought to further establish Muslim Experiential Religiousness as an empirically useful measure of Islamic spirituality. Accomplishment of that goal first involved an examination of its relationships with the Psychological Measure of Islamic Religiousness (PMIR: Abu Raiya, Pargament, Mahoney, & Stein, 2008). Development of the PMIR involved the presentation of a broad range of potentially relevant items to a worldwide internet sample of 340 Muslims. Factor analysis of these data uncovered a two-item Global Religiousness measure along with seven subscales that operationalized more specifically Islamic dimensions of religiousness. The Islamic Religious Struggle subscale assessed personal difficulties in maintaining Muslim beliefs. All other factors, such as the Islamic Beliefs subscale, expressed a more confident personal grounding in Islam. In the present project, the expectation was that Muslim Experiential Religiousness would

predict greater Global Religiousness, lower Islamic Religious Struggle, and higher levels of other subscales like Islamic Beliefs that recorded a more secure Muslim faith.

Again, a further assumption was that Muslim Experiential Religiousness represents a search for the sacred that defines a more sincere and vital faith. The overall suggestion, therefore, was that this form of spiritual consciousness should be important in the ability of individuals to integrate Muslim beliefs with other aspects of their religious and psychological functioning. In this project, assessment of psychological functioning involved administration of Perceived Stress (Cohen, Kamarck, & Mermelstein, 1983) and Self-Esteem (Rosenberg, 1965) scales with the expectation that Muslim Experiential Religiousness would correlate negatively with the former and positively with the latter. More importantly, however, evidence that Muslim Experiential Religiousness plays an integrative role in Islamic religious consciousness would appear if it at least partially mediated relationships of Islamic Beliefs with other religious and psychological measures.

### **Rationality Analysis**

Procedures also sought to guarantee that Muslim Experiential Religiousness operationalized spirituality in a way that made sense or seemed “rational” to Iranian Muslims. A direct method for accomplishing this purpose is simply to ask members of a religious tradition whether items of a psychological scale express the “rationality” of their faith (Watson, 2010), and a recent investigation documented the potential of such methods to yield unexpected insights into the dynamics of religious rationality in Iran (Ghorbani, Watson, Saeedi, Chen, & Silver, 2012). In the present project, Iranian participants evaluated how consistent or inconsistent each Muslim Experiential Religiousness item was with their Muslim religious ideals. The evaluated consistency of all items taken together expressed the Islamic “macro-rationality” of the scale. Given the presumption that Muslim Experiential Religiousness articulates a *Qur’anic* form of spirituality, the expectation was that macro-rationality scores would correlate positively with Muslim Experiential Religiousness, negatively with Islamic Religious Struggle, and positively with all other PMIR subscales. Macro-rationality scores should also correlate negatively with Perceived Stress and positively with Self-Esteem.

These procedures also make it possible to examine the “rationality” of each individual item separately. Such “micro-rationality” assessments can be used in a series of additional steps in order to clarify measures that are read by research

participants to combine “rational” with ambiguous and “irrational” expressions of a faith (see e.g., Ghorbani, Watson, Saeedi, Chen, & Silver, 2012). Ambiguous items can be eliminated and “irrational” items can be re-scored in the opposite direction in order to make them “rational” relative to the religious perspectives of the sample. The result of this rescoring procedure is to create an ideologically purer and thus more “rationally” meaningful operationalization of the construct being studied (Watson, 2010, 2011).

In the present project, however, the expectation was that additional steps to re-score the instrument would not be necessary because each Muslim Experiential Religiousness item would directly express a *Qur’anic* “rationality” about spirituality. In short, the hypothesis was that all Muslim Experiential Religiousness items would be significantly *not* inconsistent and/or significantly consistent with the religious beliefs of this Iranian sample. At the same time, it may be important to remember that Iranians reflect Shi’ite Muslim traditions, and Sunni Muslims may or may not read the items in the same way. The availability of rationality assessments from the present sample could, therefore, be useful in future attempts to compare and to confirm the rationality of these items with Sunni samples.

### **Islamic Seminary and General University Comparisons**

One final attempt to confirm Muslim Experiential Religiousness as a measure of spirituality involved a comparison between Islamic seminary and general university students. Specifically, this project was able to supplement a sample of Iranian students pursuing general university majors with a largely female sample enrolled in an Islamic seminary. Women in a formally Islamic educational program presumably would, on average, display a more vigorous “search for the sacred.” The hypothesis, therefore, was that seminary women would score lower on Islamic Religious Struggle and higher on Muslim Experiential Religiousness and on all other PMIR subscales. The presumed centrality of Muslim Experiential Religiousness as a spirituality that invigorates faith also suggested that this scale should at least partially mediate differences observed between these two student groups of women.

### **Clarifying the PMIR**

As a secondary purpose, this project also sought to further clarify the PMIR. Pakistani studies already document the promise of the PMIR in advancing a Muslim psychology of religion (Khan, Watson, & Chen, 2011, 2012; Khan,

Watson, Chen, Iftikhar, & Jabeen, 2012). A vast research literature, for example, demonstrates that religious beliefs can both help and hinder efforts to cope with stress (Pargament, 1997). The Islamic Positive Religious Coping and Identification Subscale (IPRCIS) of the PMIR records beliefs that should facilitate coping, whereas Punishing Allah Reappraisal assesses beliefs that should interfere.

Use of these measures in Pakistan yielded four most important insights. First, the IPRCIS was not unidimensional, but instead included Positive Islamic Coping, Islamic Identity, and Extra-Prayer Commitment factors. Second, Punishing Allah Reappraisal and the IPRCIS factors correlated positively with each other and also tended to predict an Intrinsic Religious Orientation. All four measures, therefore, seemed to be congruent with a sincere Muslim faith. Third, the IPRCIS factors displayed at least some evidence of predicting adaptive psychological adjustment and of facilitating efforts to cope. However, the evidence for any particular IPRCIS factor tended to be weak and inconsistent. Finally, Punishing Allah Reappraisal displayed some connections with psychological maladjustment and with relatively poorer coping, but, once again, the data were weak and inconsistent.

Use of the PMIR in Iran made it possible to extend the analysis of Islamic coping to a new Muslim context. A first hypothesis was that the three-factor Pakistani model of the IPRCIS would be superior to the original one-factor model in Iran as well. Evidence of expected influences on coping would appear if the IPRCIS correlated negatively and if Punishing Allah Reappraisal correlated positively with Perceived Stress (Cohen, Kamarck, & Mermelstein, 1983). Opposite relationships with Self-Esteem (Rosenberg, 1965) would confirm hypotheses about psychological adjustment. Theoretical roles in coping further suggested that the IPRCIS and Punishing Allah Reappraisal subscales should at least partially mediate connections of Perceived Stress with Self-Esteem, with Muslim Experiential Religiousness, and with other PMIR subscales. More specifically, Perceived Stress should correlate positively with Islamic Religious Struggle and negatively with Self-Esteem and the other PMIR factors, which in turn should also exhibit linkages with greater Self-Esteem.

## **Hypotheses**

In summary, this investigation administered the Muslim Experiential Religiousness Scale and the PMIR to Iranian university and Islamic seminary students in order to test seven sets of hypotheses:

First, confirmatory factor analysis (CFA) should demonstrate that Muslim Experiential Religiousness Scale is unidimensional and that the IPRCIS contains the three-factor structure previously observed in Pakistan.

Second, Muslim Experiential Religiousness should correlate negatively with Islamic Religious Struggle and Perceived Stress and positively with all other PMIR subscales and with Self-Esteem. In addition, Islamic Religious Struggle and Punishing Allah Reappraisal should display direct associations with Perceived Stress and negative linkages with Self-Esteem. For all other PMIR measures, the expectation was for an opposite pattern of relationships, i.e., negative correlations with Perceived Stress and positive correlations with Self-Esteem.

Third, Muslim Experiential Religiousness should at least partially mediate relationships of the Islamic Beliefs subscale with measures of religious and psychological functioning.

Fourth, Muslim Experiential Religiousness macro-rationality scores should correlate negatively with Islamic Religious Struggle and Perceived Stress and positively with all other measures of Muslim commitment and Self-Esteem. In addition, micro-rationality assessments should reveal that all Muslim Experiential Religiousness items are consistent with Islamic religious ideals.

Fifth, IPRCIS and Punishing Allah Reappraisal measures should at least partially mediate associations of Perceived Stress with religious and psychological functioning.

Sixth, in comparison to women enrolled in more general university majors, women pursuing more explicitly Islamic educational objectives in a seminary should score lower on Islamic Religious Struggle and higher on Muslim Experiential Religiousness and on all other PMIR variables.

Seventh, Muslim Experiential Religiousness should at least partially mediate the religious and psychological differences that appear between these two groups of women.

## **Method**

### *Participants*

Research participants included 351 students from two institutions near Tehran. Of this total, 192 majored in general educational programs at the University of Kashan. This General Education Group included 101 men and 91 women with an average age of 22.4 ( $SD = 4.0$ ). The other 159 students made up the

Religious Education Group. These seven males and 152 females attended the Seminary of Kashan. Their average age was 20.3 ( $SD = 2.6$ ).

## **Materials**

A single questionnaire booklet contained all measures. Initial scale development procedures expressed Muslim Experiential Religiousness items in Persian (Ghorbani, Watson, Geranmayepour, & Chen, 2013a). Translation of all other instruments occurred in preparation for the present or previous projects. In these procedures, one person translated a psychological scale from English into Persian, and then another back-translated it into English. Translators resolved any meaningful discrepancies between original and back-translated statements through revisions in the Persian translation. Unless otherwise noted, all measures employed 1 to 5 response options. Scales appeared in the booklet in the sequence in which they are reviewed below.

### *Muslim Experiential Religiousness*

Fifteen statements made up the Muslim Experiential Religiousness Scale ( $\alpha = .89$ ,  $M$  response per item = 4.13,  $SD = 0.63$ ). Development of this final instrument rested upon a preliminary analysis of 90 potential items that expressed the three *Qur'anic* themes deemed to express an Islamic spirituality (Ghorbani, Watson, Geranmayepour, & Chen, 2013a). Validity of this measure has been established in a number of additional investigations (Chen, Ghorbani, Watson, & Aghababaei, in press; Ghorbani, Watson, Aghababaei, & Chen, 2013; Ghorbani, Watson, Geranmayepour, & Chen, 2013b).

### *Islamic Beliefs*

All remaining religious measures came from the PMIR. Development of the PMIR began with interviews of Muslims living in the United States and Israel in order to guarantee that all statements included within the instrument would validly expressed Islamic theological perspectives. A pilot study then assessed 122 potential items, which procedures subsequently winnowed down to 70. Factor analyses then identified seven subscales defined by 60 total items. Establishment of subscale validity occurred through an examination of relationships with an array of variables that included, for example, depressed mood, purpose in life, angry feelings, and alcohol use (Abu Raiya, Pargament, Mahoney, & Stein, 2008). The Islamic Beliefs subscale, in particular, included

five items ( $\alpha = .84$ ,  $M = 1.83$ ,  $SD = 0.35$ ) that used “no” (0), “uncertain” (1), and “yes” (2) response options. One belief, for instance, was, “I believe in the existence of paradise and hell.”

#### *Islamic Ethical Principles and Universality*

The Islamic Ethical Principles and Universality subscale contained 14 statements ( $\alpha = .93$ ,  $M = 3.70$ ,  $SD = 0.93$ ). An illustrative item said, “Islam is the major reason why I am a humble person.”

#### *Islamic Religious Conversion*

This subscale included six items that said, for example, “Becoming more involved in Islam was a turning point in my life” ( $\alpha = .83$ ,  $M = 3.63$ ,  $SD = 0.90$ ).

#### *Islamic Positive Religious Coping and Identification Subscale*

The IPRCIS included 14 items ( $\alpha = .82$ ,  $M = 3.25$ ,  $SD = 0.60$ ). Of these, two used 0-to-5 response options, with the remainder employing a 1-to-4 Likert scale. Illustrating this subscale was the self-report, “When I face a problem in life, I remind myself that Allah commanded me to be patient.”

#### *Punishing Allah Reappraisal*

Although containing only three items, Punishing Allah Reappraisal proved to be internally reliable in the present project ( $\alpha = .84$ ,  $M = 2.81$ ,  $SD = 0.87$ ). A representative statement asserted, “When I face a problem in life, I believe that I am being punished by Allah for bad actions I did.” Reactions ranged across 1 (“I do not do this at all”) to 4 (“I do this a lot”) response options.

#### *Islamic Religious Struggle*

Six statements made up the Islamic Religious Struggle subscale ( $\alpha = .85$ ,  $M = 0.80$ ,  $SD = 0.94$ ). Indicative of struggle was the statement, “I find myself doubting the existence of Allah.” Responses ranged from “never” (0) to “very often” (4).

#### *Islamic Duty, Obligation, and Exclusivism*

Factor analysis of the PMIR united items referring to Islamic Duty, Obligation, and Exclusivism into a single subscale. Exemplifying duty was the question,

“How often do you pray?” Answers ranged from “never” (0) to “five times a day or more” (5). One representative expression of obligation said, “I read the *Holy Qur’an* because I would feel guilty if I did not.” Reactions ranged from “not at all true” (1) to “very true” (4). Exclusivism appeared in such statements as, “Islam is Allah’s complete, unfailing guide to happiness and salvation, which must be totally followed.” Response options ran from “very strongly disagree” (−4) to “very strongly agree” (+4). This complex measure was internally reliable with the present sample ( $\alpha = .79$ ,  $M = 2.24$ ,  $SD = 1.08$ ).

### *Global Religiousness*

Two questions assessed Global Religiousness ( $\alpha = .79$ ,  $M = 3.07$ ,  $SD = 0.88$ ). One asked, “How do you describe your religiousness?” The other asked the same thing about “spirituality” rather than “religiousness.” Answers ranged from “very low” (1) to “very high” (5).

### *Perceived Stress*

The Perceived Stress Scale contained a series of questions about stressful life experiences (e.g., “In the last month, how often have you felt that you were unable to control the important things in your life?”). Answers varied from 1 (“never”) to 5 (“very often”). Two of 14 items displayed negative item-to-total correlations in preliminary analyses (Cohen, Lamarck, & Mermelstein, 1983). As in previous Iranian investigations examining translated measures, scoring procedures eliminated these items to enhance internal reliability ( $\alpha = .66$ ,  $M = 2.86$ ,  $SD = 0.46$ ). The psychometric advisability of such an approach appears in the increased likelihood of observing statistically significant outcomes that then display valid patterns of relationship with other measures.

### *Self-Esteem*

The Rosenberg (1965) Self-Esteem Scale included ten items associated with a 1-to-5 Likert scale ( $\alpha = .73$ ,  $M = 3.44$ ,  $SD = 0.61$ ). Illustrating self-esteem was the claim, “I take a positive attitude toward myself.”

### *Religious Rationality Assessment of Muslim Experiential Religiousness*

The final section of the booklet presented Muslim Experiential Religiousness items once again. This time, however, instructions essentially asked participants to evaluate the religious rationality of each item. Specifically, the instruc-

tions said, "We would like you to show how much each statement is suitable to be used with an Iranian Muslim." Responses ranged from 1, "a good Iranian Muslim would strongly disagree with this statement" (i.e., the item is inconsistent with Muslim commitments), to 5, "a good Iranian Muslim would strongly agree with this statement" (i.e., the item is consistent). Instructions made it clear that "a good Iranian Muslim in these response options means 'a person who authentically tries to follow his or her religious ideals.'"

## Procedure

All participation in this project was voluntary, confidential, and in full conformity with institutional ethical guidelines for conducting research. Researchers administered questionnaire booklets to students groups of varying size in a classroom setting.

Data analysis began with CFA procedures that examined factor structures of the Muslim Experiential Religiousness Scale and the IPRCIS. After this preliminary step, the scoring of all instruments involved the computation of average responses per item. For religious rationality assessments, such procedures expressed the "macro-rationality" of the overall Muslim Experiential Religiousness Scale.

Evaluating the "micro-rationality" of individual Muslim Experiential Religiousness items required the use of two separate  $\chi^2$  analyses of the religiously "inconsistent" and "consistent" ratings of each statement. "Inconsistent" ratings involved assessments in which the participant "very strongly" or "strongly" *disagreed* that the statement was what a "good Iranian Muslim" would believe. Analyses then compared the frequency of these "inconsistent" ratings with the frequencies of all the other options combined. Then, "consistent" ratings reflected responses in which participants "very strongly" or "strongly" *agreed* that the statement was what a "good Iranian Muslim" would believe. Here,  $\chi^2$  tests compared "consistent" rating frequencies with the combined frequencies of all other options. Again, the expectation was that all Muslim Experiential Religiousness items would be "rational" relative to Muslim normative commitments. In other words, the hypothesis was that each item would be significantly *not* inconsistent and/or significantly consistent with what a "good Iranian Muslim" would believe.

After examining correlations and rationality assessments, procedures next used the conceptual framework of Hays (2012) to determine whether and how the IPRCIS and Punishing Allah Reappraisal measures might mediate

relationships of Perceived Stress with religious and psychological functioning. Significance tests of multiple mediation employed 1000-sample bootstrap methods with a 95% confidence interval and rested upon use of the Process module for SPSS (Hayes, 2012).

Then, procedures examined whether Muslim Experiential Religiousness mediated the associations of Islamic Beliefs with other variables. These tests of single mediation followed the conceptual framework of Baron and Kenny (1986), which first required that Islamic Beliefs as the independent variable of the proposed model predict the potential mediator, Muslim Experiential Religiousness. Then analysis of mediation required that Islamic Beliefs predict a proposed dependent variable on the first step of a multiple regression analysis. On the second step, mediation appeared if the addition of Muslim Experiential Religiousness to the prediction equation increased the variance explained and eliminated or significantly reduced the association of the independent with the dependent variable. Elimination revealed full mediation, whereas significant reduction became evident with the observation of a significant Sobel test (1982) *Z* score and thereby uncovered a partial mediation effect.

Final analyses explored questions about the Religious and General Education Groups. Examined first was the possibility that the two groups displayed mean differences in their religious and psychological functioning. Then procedures assessed the possibility that Muslim Experiential Religiousness mediated any contrasts that did appear between these two groups. Again, these tests of single mediation followed the conceptual framework of Baron and Kenny (1986).

## **Results**

### *Factor Structures*

All CFA procedures used maximum likelihood estimation with robust standard errors (Muthén & Muthén, 1998-2010). Evaluation of model fit followed the recommendations of Hu and Bentler (1999) and McDonald and Ho (2002). Specifically, good fit appeared with the observation of acceptable values on two of three indices involving a root mean square of approximation (RMSEA) equal to .06 or less, a standardized root mean square residual (SRMR) of .08 or less, and a comparative fit index (CFI) of .90 or more. Results confirmed the unidimensional structure of Muslim Experiential Religiousness,  $\chi^2(90) = 169.40, p < .000, RMSEA = .050, CFI = .95, SRMR = .038.$

As in Pakistan, the IPRCIS did not display a 1-factor structure,  $\chi^2 (77) = 368.9$ ,  $p < .000$ , RMSEA = .100, CFI = .84, SRMR = .069. More acceptable fit indices emerged with the alternative three-factor model,  $\chi^2 (74) = 232.6$ ,  $p < .000$ , RMSEA = .078, CFI = .91, SRMR = .058. In short, the three-factor model did indeed prove to be empirically superior to the one-factor model,  $\Delta\chi^2 (3) = 136.3$ ,  $p < .000$ . All subsequent analyses, therefore, focused on the three factors rather than on the full IPRCIS subscale. Again, factors included Islamic Identity (five items;  $\alpha = .84$ ;  $M = 3.20$ ,  $SD = 1.00$ ; e.g. "I read the *Holy Qur'an* because I feel that Allah is talking to me when I do that"), Positive Islamic Coping (six items;  $\alpha = .83$ ;  $M = 3.34$ ,  $SD = 0.61$ , e.g., "when I face a problem in life, I look for a stronger connection with Allah"), and Extra-Prayer Commitment (three items;  $\alpha = .59$ ;  $M = 3.07$ ,  $SD = 1.00$ ; e.g., "except in prayers how often do you read or listen to the *Holy Qur'an*").

### Correlations

Table 1 summarizes correlations among measures. Muslim Experiential Religiousness correlated negatively with Islamic Religious Struggle and positively with all other PMIR variables. Islamic Religious Struggle exhibited negative linkages with most other PMIR scores, and these other measures in turn exhibited positive relationships with each other. Perceived Stress correlated negatively with Muslim Experiential Religiousness, Islamic Identity, Positive Islamic Coping, Islamic Beliefs, Islamic Ethical Principles and Universality, and Self-Esteem and positively with Punishing Allah Reappraisal and Islamic Religious Struggle. Finally, Self-Esteem predicted higher levels of Muslim Experiential Religiousness, Islamic Identity, Extra-Prayer Commitment, Positive Islamic Coping, Islamic Beliefs, and General Religiousness and lower levels of Punishing Allah Reappraisal and Islamic Religious Struggle.

### Muslim Rationality Assessments

Average rationality of the Muslim Experiential Religiousness items was 4.46 ( $SD = 0.69$ ), and these macro-rationality scores displayed a strong internal reliability ( $\alpha = .96$ ). Macro-rationality assessments correlated .56 ( $p < .001$ ) with the Muslim Experiential Religiousness Scale. In addition, these scores predicted lower levels of Islamic Religious Struggle ( $-.27$ ,  $p < .001$ ) and higher levels of Islamic Identity (.41); Extra-Prayer Commitment (.21); Positive Islamic Coping (.45); Punishing Allah Reappraisal (.30); Islamic Beliefs (.42); Islamic Ethical Principles and Universality (.39); Islamic Religious Conversion (.46); Islamic Duty, Obligation, and Exclusivism (.46), Global Religiousness

Table 1. Correlations among Muslim Experiential Religiousness (MER), Psychological Measures of Islamic Religiousness, Perceived Stress, and Self-Esteem

Measure	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. MER	.63***	.48***	.66***	.37***	.47***	.61***	.50***	-.36***	.56***	.32***	-.11*	.21***
2. Islamic Identity	-	.50***	.68***	.40***	.45***	.56***	.52***	-.42***	.61***	.37***	-.17**	.12*
3. Extra-Prayer Commitment	-	.43***	.20***	.20***	.16**	.45***	.47***	-.30***	.49***	.30**	-.10	.13*
4. Positive Islamic Coping	-	.38***	.44***	.38***	.44***	.52***	.54***	-.34***	.51***	.37***	-.12*	.20***
5. Punishing Allah Reappraisal	-	.19***	.32***	.35***	.35***	.32***	.35***	-.04	.40***	.17**	.18**	-.11*
6. Islamic Beliefs	-	.43***	.33***	.49***	.48***	.43***	.33***	-.49***	.48***	.17**	-.13*	.18**
7. Islamic Ethical Principles and Universality	-	.59***	.48***	.60***	.60***	.59***	.48***	-.48***	.60***	.25***	-.12*	.05
8. Islamic Religious Conversion	-	.28***	.55***	.55***	.55***	.28***	.55***	-.28***	.55***	.28***	-.09	.05
9. Islamic Religious Struggle	-	.42***	.11	.20**	.15**	.42***	.11	-.11	.42***	.11	.20**	-.15**
10. Islamic Duty, Obligation, and Exclusivism	-	.37***	.05	.19***	.19***	.37***	.05	-.05	.37***	.05	-.05	.05
11. Global Religiousness	-	.37***	.05	.19***	.19***	.37***	.05	-.05	.37***	.05	-.05	.19***
12. Perceived Stress	-	.37***	.05	.19***	.19***	.37***	.05	-.05	.37***	.05	-.05	.19***
13. Self-Esteem	-	.37***	.05	.19***	.19***	.37***	.05	-.05	.37***	.05	-.05	.19***

\* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$ .

(.18), and Self-Esteem (.19,  $ps < .01$ ). The relationship with Perceived Stress was nonsignificant ( $-.07, p = .17$ ).

Micro-rationality assessments revealed that all 15 items conformed to sample understandings of Iranian Muslim ideals. Specifically, all 15 items were significantly consistent,  $\chi^2 \geq 160.11, p < .001$ , and significantly *not* inconsistent,  $\chi^2 \geq 256.19, p < .001$ , with sample evaluations of what Islamic religious experience should be.

### *Coping Measures and Mediation of Perceived Stress Effects*

Did Islamic coping measures mediate the effects of Perceived Stress? For mediation to occur, the independent variable had to display an association with the mediator (Baron & Kenny, 1986). Perceived Stress did in fact predict higher levels of Punishing Allah Reappraisal,  $\beta = .18, p < .01$ , and among the IPRCIS factors, it also displayed linkages with lower Positive Islamic Coping,  $\beta = -.12, p < .05$ , and Islamic Identity,  $\beta = -.17, p < .01$ , but not with Extra-Prayer Commitment,  $\beta = -.10, p = .06$ . The independent variable must also predict the dependent variable. Significant  $\beta$  values appeared for Perceived Stress associations with Muslim Experiential Religiousness ( $-.11$ ), Islamic Beliefs ( $-.13$ ), Islamic Ethical Principles and Universality ( $-.12$ ), Islamic Religious Struggle (.20), and Self-Esteem ( $-.37, ps < .05$ ). Procedures, therefore, tested models in which Perceived Stress was the independent variable; Positive Islamic Coping, Islamic Identity, and Punishing Allah Reappraisal were mediators; and Muslim Experiential Religiousness, Islamic Beliefs, Islamic Ethical Principles and Universality, Islamic Religious Struggle, and Self-Esteem served as dependent variables.

As noted previously, multiple mediation analyses followed the approach of Hayes (2012). In these procedures, evidence of a significant mediation effect appeared when the 95% confidence interval did not include zero. Data in the last column of Table 2, therefore, make it clear that the three mediators produced significant overall effects in the analysis of all four religious dependent variables. The direct effects of Perceived Stress with each of these variables also became nonsignificant; so, full mediation occurred. All three potential mediators contributed to the mediation of linkages with Muslim Experiential Religiousness, Islamic Ethical Principles and Universality, and Islamic Religious Struggle. Positive Islamic Coping and Islamic Identity combined to explain the full mediation of Islamic Beliefs. Weak effects observed for Positive Islamic Coping and Punishing Allah Reappraisal failed to produce a significant overall mediation of the Perceived Stress association with Self-Esteem.

Table 2. Indirect Effect of Positive Islamic Coping (PIC), Islamic Identity (II), and Punishing Allah Reappraisal (PAR) as Multiple Mediators of Perceived Stress (PS) Predicting Religious and Psychological Criteria as tested by the 5000 Bootstrap 95% Confidence Interval Method

Dependent Variable	Direct Effect		Indirect Effect in Multiple Mediation Model			
	PS	PIC (95% CI)	II (95% CI)	PAR(95% CI)	Total (95% CI)	
Muslim Experiential Religiosity	-.04	-.06 (-.12 to -.01)*	-.06 (-.12 to -.02)*	.02 (.001 to .05)*	-.10 (-.20 to -.001)*	
Islamic Beliefs	-.04	-.02 (-.05 to -.001)*	-.03 (-.07 to -.01)*	.00 (-.01 to .01)	-.05 (-.09 to -.01)*	
Islamic Ethical Principles and Universality	-.09	-.05 (-.12 to -.01)*	-.10 (-.19 to -.04)*	.03 (.001 to .08)*	-.12 (-.25 to -.001)*	
Islamic Religious Struggle	.17	.02 (.001 to .08)*	.12 (.05 to .21)*	.05 (.01 to .11)*	.19 (.09 to .29)*	
Self-Esteem	-.37***	-.03 (-.08 to -.001)*	.01 (-.01 to .05)	-.02 (-.06 to -.001)*	-.04 (-.09 to .00)	

\* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$

*Muslim Experiential Religiousness Mediation of Islamic Belief Relationships*

Again, one way to test the hypothesized centrality of Muslim Experiential Religiousness in Muslim spirituality was to determine if it mediated associations of Islamic Beliefs with other measures. As Table 3 makes clear, Muslim Experiential Religiousness fully mediated the connections of Islamic Beliefs with Extra-Prayer Commitment, Punishing Allah Reappraisal, Global Religiousness, and Self-Esteem. This full mediation became apparent when adding Muslim Experiential Religiousness to the prediction equation on Step 2 eliminated the significant association observed previously for Islamic Beliefs on Step 1. As explained previously, with partial mediation, Muslim Experiential Religiousness increased the variance explained on Step 2, and a Sobel test revealed a significant reduction but not an elimination of the Islamic Beliefs linkage with a dependent variable. Partial mediation appeared with Islamic Identity; Positive Islamic Coping; Islamic Ethical Principles and Universality; Islamic Religious Conversion; Islamic Religious Struggle; Islamic Duty, Obligation, and Exclusivism; and macro-rationality scores. Only with Perceived Stress did no evidence of mediation appear.

*Comparisons between Religious and General University Women*

Again, in this sample, the Religious Education Group included only seven men; so, analyses of differences between these two educational groups focused on women. Average age of the Religious Education women was 22.4 ( $SD = 3.2$ ), and for the General Group, it was 23.2 ( $SD = 5.0$ ). This small difference in age was not statistically significant,  $t(241) = 1.71, p = .09$ .

A Multivariate Analysis of Variance examined group differences and uncovered a significant overall effect, Wilks' Lambda = .626,  $F(13, 149) = 6.84, p < .001$ . As Table 4 indicates, the Religious Education Group scored higher on Muslim Experiential Religiousness; Islamic Identity; Extra-Prayer Commitment; Positive Islamic Coping; Punishing Allah Reappraisal; Islamic Ethical Principles and Universality; Islamic Religious Conversion; Islamic Duty, Obligation, and Exclusivism; Self-Esteem; and macro-rationality scores. They also scored lower on Islamic Religious Struggle and Perceived Stress.

Table 5 summarizes analyses testing the possibility that Muslim Experiential Religiousness mediated observed group differences. A dichotomous variable expressed group membership with 0 for the General Group and 1 for the Religious Group, and procedures followed the recommendations of Baron and Kenny (1986). In these mediation models, the Religious Group measure was the independent variable and displayed the required association with the Muslim

Table 3. Analysis of Muslim Experiential Religiousness as Mediator (MED) of Islamic Belief as Independent Variable (IV) Predicting Religious and Psychological Dependent Variables (DV)

Dependent Variable	Step 1			Step 2			Sobel Z
	R <sup>2</sup>	IV $\beta$ with DV	$\Delta R^2$	IV $\beta$ with DV	MED $\beta$ with DV	MED $\beta$ with DV	
Islamic Identity	.20***	.45***	.23***	.20***	.54***	.54***	7.53***
Extra Prayer Commitment	.03**	.16**	.21***	-.08	.52***	.52***	6.88***
Positive Islamic Coping	.19***	.44***	.27***	.16***	.58***	.58***	7.81***
Punishing Allah Reappraisal	.04***	.19***	.10***	.03	.35***	.35***	5.24***
Islamic Ethical Principles and Universality	.19***	.43***	.21***	.19***	.52***	.52***	7.29***
Islamic Religious Conversion	.11***	.33***	.15***	.13*	.44***	.44***	5.24***
Islamic Religious Struggle	.24***	-.49***	.02**	-.41***	-.17**	-.17**	-3.04**
Islamic Duty, Obligation, and Exclusivism	.23***	.48***	.14***	.28***	.43***	.43***	6.56***
Global Religiousness	.03**	.17**	.08***	.02	.31***	.31***	4.69***
Perceived Stress	.02*	-.13*	.00	-.10	-.07	-.07	-1.14
Self-Esteem	.03**	.17**	.02**	.09	.17**	.17**	2.71**

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$ .

Table 4. Contrasts between Religious and General Education Groups of Women on Religious and Psychological Measures

Measure	Religious Group		General Group		F
	M	SD	M	SD	
Muslim Experiential Religiousness	4.39	0.44	3.95	0.64	25.73***
Islamic Identity	3.42	0.47	3.13	0.64	10.23**
Extra-Prayer Commitment	3.52	0.85	2.85	0.87	21.94***
Positive Islamic Coping	3.52	0.43	3.27	0.68	8.50**
Punishing Allah Reappraisal	2.97	0.78	2.59	0.77	8.89**
Islamic Ethical Principles and Universality	4.27	0.67	3.34	0.87	57.72***
Islamic Religious Conversion	3.98	0.78	3.33	0.82	24.00***
Islamic Religious Struggle	1.46	0.82	1.97	0.89	13.25***
Islamic Duty, Obligation, and Exclusivism	2.70	0.78	1.86	1.17	29.76***
Global Religiosity	3.28	0.91	3.01	0.90	3.23
Perceived Stress	2.81	0.46	2.97	0.51	4.33*
Self-Esteem	3.52	0.60	3.28	0.51	6.21*
Macro-Rationality Scores	4.81	0.50	4.53	0.67	5.76*

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$ .

Experiential Religiousness mediator,  $\beta = .33$ ,  $p < .001$ . The Religious Group variable was not significantly associated with the potential psychological dependent variables of Perceived Stress,  $\beta = -.11$ ,  $p = .10$ , and Self-Esteem,  $\beta = .11$ ,  $p = .09$ . Mediation, therefore, could not occur with these measures (Baron & Kenny, 1986). As Table 5 makes clear, all PMIR subscales and macro-rationality scores could serve as dependent variables in a mediation model, and Muslim Experiential Religiousness fully mediated Religious Group relationships with Positive Islamic Coping, Punishing Allah Reappraisal, Global Religiosity, and macro-rationality scores, while partially mediating all other significant associations.

## Discussion

Findings of this investigation supported the hypothesis that the spirituality of Muslim Experiential Religiousness operationalized a central feature of Muslim

Table 5. Analysis of Muslim Experiential Religiosity as Mediator (MED) of Significant Religious Education Group Independent Variable (IV) Relationships with Religious Dependent Variables (DV) in Female Students

Dependent Variable	Step 1			Step 2			Sobel Z
	R <sup>2</sup>	IV $\beta$ with DV	$\Delta R^2$	IV $\beta$ with DV	MED $\beta$ with DV		
Islamic Identity	.10***	.31***	.29***	.12*	.57***	5.41***	
Extra-Prayer Commitment	.18***	.43***	.11***	.31***	.36***	4.39***	
Positive Islamic Coping	.06***	.25***	.36***	.04	.64***	5.60***	
Punishing Allah Reappraisal	.05**	.22**	.08***	.12	.31***	3.79***	
Islamic Ethical Principles and Universality	.27***	.52***	.17***	.38***	.44***	5.06***	
Islamic Religious Conversion	.13***	.36***	.12***	.23***	.37***	3.98***	
Islamic Religious Struggle	.10***	-.31***	.06***	-.22**	-.26***	-3.45***	
Islamic Duty, Obligation, and Exclusivism	.18***	.43***	.20***	.27***	.47***	5.11***	
Global Religiosity	.02*	.14*	.12***	.02	.36**	4.20***	
Macro-Rationality Scores	.04**	.19**	.37***	-.04	.65***	4.98***	

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$ .

religious consciousness. As expected, this newly created index of submission to, closeness to, and love of God was unidimensional, correlated negatively with Islamic Religious Struggle, and predicted higher levels of Global Religiousness and Islamic faithfulness as recorded by a broad array of PMIR subscales. Muslim Experiential Religiousness also fully or partially mediated 10 of 11 Islamic Beliefs relationships with religious and psychological adjustment. Religious education women scored higher on this new scale than did general university women, and Muslim Experiential Religiousness fully or partially mediated the numerous religious differences that appeared between these two student groups. Macro-rationality scores correlated positively with Muslim Experiential Religiousness, PMIR measures of Muslim commitment, and Self-Esteem and negatively with Islamic Religious Struggle. Micro-rationality assessments found that all Muslim Experiential Religiousness items conformed to sample understandings of Muslim religious ideals. In short, this scale clearly and consistently recorded a form of Muslim "rationality." Linkages with lower Perceived Stress and greater Self-Esteem further suggested that Muslim Experiential Religiousness defined successful psychological adjustment within a formally theocratic Islamic society.

Results also confirmed the PMIR as an empirically useful instrument for exploring the psychology of Muslim religion. In addition to associations with Muslim Experiential Religiousness, all PMIR subscales displayed predictable relationships with each other in the previously unexamined cultural context of Iran. Islamic Religious Struggle clearly assessed problems in maintaining Muslim commitments, and all other PMIR subscales recorded various forms of faithfulness to Islam. The adequate operationalization of any religious tradition must obviously include the assessment of basic foundational beliefs, and the Islamic Beliefs subscale seemed to accomplish that purpose. The ability of foundational beliefs to be integrated into religious commitments as a meaningful whole presumably rests upon faith being a personal experiential reality. The Islamic Beliefs subscale made it possible to test and then confirm this hypothesis when Muslim Experiential Religiousness fully or partially mediated almost all Islamic Beliefs associations with Muslim religious and psychological adjustment. Finally, correlations with macro-rationality scores demonstrated that the PMIR was like Muslim Experiential Religiousness in being sensitive to the "rationality" of Muslim religious ideals.

#### *PMIR Coping Measures*

As in Pakistan (Khan, Watson, & Chen, 2011, 2012; Khan, Watson, Chen, Iftikhar, & Jabeen, 2012), the IPRCIS in Iran displayed a three-factor rather

than the initially reported unidimensional structure (Abu Raiya, Pargament, Mahoney, & Stein, 2008). These Islamic Identity, Extra-Prayer Commitment, and Positive Islamic Coping factors correlated negatively with Perceived Stress, and/or positively with Self-Esteem, confirming suggestions that they would measure beliefs that promote coping. Negative relationships with Islamic Religious Struggle may also have pointed toward coping benefits. The further hypothesis was that Punishing Allah Reappraisal would hinder coping, and indeed this subscale did display opposite linkages with Perceived Stress and Self-Esteem along with a non-significant relationship with Islamic Religious Struggle.

Even clearer evidence of a possible role in coping came in observations that Positive Islamic Coping, Islamic Identity, and Punishing Allah Reappraisal fully mediated Perceived Stress relationships with greater Islamic Religious Struggle and with lower Muslim Experiential Religiousness, Islamic Beliefs, and Islamic Ethical Principles and Universality. Such associations implied that Perceived Stress could interfere with Muslim religious functioning, and mediation analyses then suggested that Positive Islamic Coping and Islamic Identity might ameliorate such stress effects whereas Punishing Allah Reappraisal might aggravate them. The failure of IPRCIS factors and Punishing Allah Reappraisal to produce a clear overall mediation of the Perceived Stress association with Self-Esteem perhaps revealed that PMIR coping measures are less relevant to psychological than to religious functioning. Such a conclusion must remain tentative, however, until additional measures of psychological functioning can be examined in future research.

#### *Religious and General University Group Differences*

Underlying the attempt to compare Religious and General Education Groups was the assumption that women with a stronger Muslim spirituality would be more likely to choose careers that required an explicitly Islamic religious education. The higher Muslim Experiential Religiousness and macro-rationality scores of the Religious Education women supported this idea, as did the significant group differences observed for all but the Global Religiousness subscale of the PMIR.

Religious Education women also displayed greater Self-Esteem and lower Perceived Stress. These contrasts supported the perhaps unsurprising conclusion that pursuit of a religious career reflected a relatively stronger psychological adjustment to an Islamic theocratic society. As with the mediation of

Islamic Beliefs relationships, the mediation of Religious Education Group differences offered additional support for the claim that Muslim Experiential Religiousness operationalized a centrally important feature of Muslim religious consciousness.

All conclusions about group differences must, nevertheless, remain cautious because this project only compared women. A previous Iranian investigation did, however, examine both men and women enrolled in formally religious and more general universities (Ghorbani, Watson, Geranmayepour, & Chen, 2013a). In that study, some subtle sex differences did of course appear, but the data overall demonstrated that Muslim Experiential Religiousness had very similar implications in both sexes.

### *Limitations*

Other limitations also argue for caution in interpreting the results of this investigation. University students were not representative of the Iranian population as a whole. Additional research will need to examine samples that more closely mirror Iranian society.

In addition, Iran is a largely Shiite society. The finding that IPRCIS factors discovered previously in Pakistan appeared in Iran as well does suggest some optimism about the generalization of the present conclusions to other Islamic cultures. That possibility, nevertheless, requires formal research attention in societies in which Sunni rather than Shiite commitments predominate. Among other things, such investigations may need to determine whether all Muslim Experiential Religiousness items express a Sunni as well as a Shiite rationality.

Of further interest would be the analysis of Muslims living in societies in which Islam is a minority religion. Would the internalization of Muslim Experiential Religiousness be even more psychologically and religiously important in cultural contexts in which the environmental supports for faith were less prominent? Studies looking at Muslims living in the West would help answer this and other important questions.

Finally, this project used correlational and quasi-experimental procedures that can yield no definitive evidence about causality. A negative correlation, for example, might be consistent with the idea that Muslim Experiential Religiousness caused reductions in Islamic Religious Struggle, but Islamic Religious Struggle might instead have reduced Muslim Experiential Religiousness. And of course, the relationship might have nothing at all to do with causality, but instead reflect the influence of some other unexamined variable that affected both.

## Conclusion

At the most general level, this project illustrated how advances in operationalizing a religious tradition can promote progress in the psychology of religion (Watson, 2011). Use of the Muslim Experiential Religiousness Scale along with the PMIR not only documented the validity of these instruments, but also made it possible to confirm hypotheses about the dynamics of Muslim spirituality and religious consciousness. Future studies might combine the Muslim Experiential Religiousness Scale with other relevant measures (e.g., Sahin & Francis, 2002; Ghorbani, Watson, Geranmayepour, & Chen, 2013b) to further clarify Muslim religious and psychological functioning. The PMIR also proved to have clear research potential. It might be of interest to determine, for example, whether other PMIR subscales reflecting the factor analysis of a presumably heterogeneous web-based sample would display complexities like those observed in Pakistan and Iran with the IPRCIS. In short, the most general conclusion of the present Iranian investigation is that Muslim Experiential Religiousness and the PMIR both deserve wider research attention.

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