

# Research in the Social Scientific Study of Religion

VOLUME 25

*Edited By*

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# Muslim Experiential Religiousness: Relationships with Attitude toward Islam, Religious Reflection, and Basic Needs Satisfaction in Iranians

*Nima Ghorbani, P.J. Watson, Shiva Geranmayepour,  
and Zhuo Chen\**

## Abstract

Iranian seminarians and general university students responded to a Muslim Experiential Religiousness measure of Islamic spirituality. This instrument correlated positively with the Attitude toward Islam Scale, two types of Islamic Religious Reflection, Afterlife Motivation, and Basic Needs Satisfaction. Muslim Experiential Religiousness also displayed an ability to mediate and moderate at least some Attitude toward Islam relationships with other measures. Seminary students scored higher than general university students on Muslim Experiential Religiousness, and multiple mediation analyses revealed that Muslim Experiential Religiousness supplemented the Attitude toward Islam Scale in explaining some differences displayed by these two student groups. These data most importantly illustrated how Muslim Experiential Religiousness made it possible to analyze the role of spirituality in actualizing the adaptive religious and psychological potentials of Islam.

## Keywords

Muslim Experiential Religiousness – Attitude toward Islam – Iran – spirituality – Islamic Religious Reflection – Basic Needs Satisfaction

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Research increasingly documents the importance of spirituality in the psychology of religion (e.g., Hill & Pargament, 2008; Wink & Dillon, 2008). Defined as a “search for the sacred” (Pargament, 2013, p. 257), spirituality has a potential to actualize faith by promoting well-being and by enhancing the strength of religious commitments. A recent Iranian research program, for example, used *Qur’anic* perspectives to express Islamic spirituality in a Muslim Experiential Religiousness Scale that recorded personal efforts to submit to and get closer to God in a loving relationship (Ghorbani, Watson, Geranmayepour, & Chen, 2013b, 2013c). This new instrument displayed expected linkages with more general religious orientation (Allport & Ross, 1967; Batson & Schoenrade, 1991) and more specific Muslim indices of faith (Abu-Raiya, Pargament, Mahoney, & Stein, 2008; Wilde & Joseph, 1997). Muslim Experiential Religiousness also predicted adaptive psychological functioning and exhibited incremental validity over religious orientation measures in explaining variance in religious and psychological well-being.

Evidence of actualizing influences also came in the observation of mediation and moderation effects. With regard to mediation, Muslim Experiential Religiousness fully or partially accounted for associations of religious orientation and Muslim measures of faith with religious and psychological adjustment. It also mediated the religious and psychological contrasts displayed by Islamic seminarians and Iranian university students who pursued more secular educational objectives (Ghorbani et al., 2013b, 2013c). Mediation effects, therefore, suggested that Islamic spirituality served as an integrative factor within the dynamics of Muslim psychology. Moderation effects appeared when linkages of the Muslim Attitudes toward Religion Scale (Wilde & Joseph, 1997) with greater mystical experience and with lower depression and anxiety became even stronger in those who scored higher on Muslim Experiential Religiousness (Chen, Ghorbani, Watson, & Aghababaei, 2013). Moderation effects, consequently, suggested that Muslim spirituality amplified the impact of Islamic commitments.

### *Present Project*

In general terms, the present project used the Muslim Experiential Religiousness Scale to further explore Islamic spirituality. Accomplishment of that goal most importantly involved an examination of its relationship with the Sahin and Francis (2002) Attitude toward Islam Scale. Attitude toward Islam records positive affects about Muslim commitments and predicts relatively better religious and psychological functioning (Francis, Sahin, & Al-Failakawi, 2008; Khan & Watson, 2006). Hence, the obvious expectation was that Muslim

Experiential Religiousness would correlate positively with Islamic attitudes and that both measures would predict religious and psychological well-being. A further assumption was that positive Islamic attitudes are a cause of Muslim adjustment and that Muslim spirituality helps explain its effects on adjustment. In other words, Attitude toward Islam should serve as an independent variable in a causal model with Muslim Experiential Religiousness at least partially mediating its significant relationships with dependent variables. Spirituality should also energize the impact of positive Islamic attitudes; so, Muslim Experiential Religiousness should also moderate at least some Attitude toward Islam linkages with other measures.

Hypotheses about relationships with religious and psychological functioning obviously required the examination of additional variables. With regard to religious functioning, participants also responded to Islamic Religious Reflection (Dover, Miner, & Dowson, 2007) and Afterlife Motivation scales (Ghorbani, Watson, & Shahmohamadi, 2008). Islamic Religious Reflection operationalizes a Muslim quest for meaning; in Iranian samples, this instrument includes Intellect and Faith Oriented Reflection factors that correlate positively with each other and with more adaptive religious and psychological characteristics (Ghorbani, Watson, Chen, & Dover, 2013a). Islamic Religious Reflection as a Muslim quest for meaning should presuppose positive Islamic attitudes and also move toward a search for the sacred. In other words, both Muslim Experiential Religiousness and Attitude toward Islam should correlate positively with Faith and Intellect Oriented Religious Reflection.

Assessment of Afterlife Motivation seemed useful in clarifying an unresolved question about Muslim religious motivations. Afterlife Motivation records the maintenance of religious commitments based upon a desire to avoid hell and to enter heaven after death. Though associated with generally higher levels of Muslim religiosity, Afterlife Motivation theoretically represents a more immature form of faith (Ghorbani, Watson, Ghramaleki, Morris, & Hood, 2002) and in fact predicts greater anxiety, depression, and death anxiety (Ghorbani et al., 2008). Previously observed connections with Muslim religiosity suggested that this scale should correlate positively with both Muslim Experiential Religiousness and Attitude toward Islam. The additional hope, however, was that analysis of mediation and moderation effects would uncover evidence useful in evaluating the presumed immaturity of this motivation.

Muslim Experiential Religiousness also seemed especially relevant to issues associated with psychological adjustment in Islamic culture. Fukuyama (2006) has argued that life in theocratic Iran and other Muslim societies frustrates

innate desires for self-recognition that theoretically underlie the self-determination of democratic social structures. Muslim spirituality and its submission to God might indeed seem to be incompatible with democratic self-assertion. The present project assessed such a possibility by administering the Basic Needs Satisfaction Scale (Deci & Ryan, n.d.). This instrument operationalizes the satisfaction of innate needs that Self-Determination Theory identifies as central to psychosocial well-being (Deci & Ryan, 2000) and that presumably should be germane to the psychological foundations of democratic social life. Fukuyama's perspective suggests that Muslim Experiential Religiousness might correlate negatively with Basic Needs Satisfaction.

At the same time, however, previous research has connected Basic Needs Satisfaction with both religious commitment (Ryan & Deci, 2000) and spirituality (van Dierendonck, 2012), and such evidence has appeared with Iranian Muslim samples as well (Ghorbani & Watson, 2009; Ghorbani, Watson, Chen, & Norballa, 2012). One Iranian study, for instance, found that Basic Needs Satisfaction correlated positively with psychologically healthier dimensions of mystical experience, and thus might more generally predict adaptive forms of Muslim spirituality and religiousness (Ghorbani & Watson, 2009). In opposition to the arguments of Fukuyama (2006), therefore, the hypothesis was that Basic Need Satisfaction would correlate positively with Muslim Experiential Religiousness and with all other Muslim religious measures, except perhaps the possibly more immature Afterlife Motivation.

Finally, this investigation once again examined contrasts between Islamic seminarians and more general Iranian university students (Ghorbani et al., 2013b, 2013c). In line with previous findings, the hypothesis was that seminarians would score higher on Muslim Experiential Religiousness and on all other religious variables. Cultural opportunities for self-determination might be more expansive for students pursuing religious careers in a formally theocratic society; so, Islamic seminarians might also score higher on Basic Needs Satisfaction. The further assumption was that Muslim Experiential Religiousness would mediate religious and psychological differences caused by the stronger religious identity associated with the pursuit of a seminary education.

### *Hypotheses*

In summary, this study further examined the Muslim Experiential Religiousness measure of spirituality in Iran by testing five most important sets of hypotheses.

First, Muslim Experiential Religiousness should predict higher scores on the Attitude toward Islam Scale.

Second, Muslim Experiential Religiousness and Attitude toward Islam should predict greater religious commitment and more adaptive psychological functioning. In other words, both should correlate positively with Faith and Intellect Oriented Religious Reflection, Afterlife Motivation, and Basic Needs Satisfaction.

Third, Muslim Experiential Religiousness should at least partially mediate and also moderate at least some Attitude toward Islam associations with other measures.

Fourth, in comparison with more general Iranian university students, Islamic seminarians should score higher on Muslim Experiential Religiousness, Attitude toward Islam, Islamic Religious Reflection, Afterlife Motivation, and Basic Needs Satisfaction.

Fifth and finally, religious and psychological contrasts between seminarians and general university students should be mediated, at least in part, by the spirituality of Muslim Experiential Religiousness.

## Method

### *Participants*

Research participants included 351 students from institutions of higher education near Tehran. Of these, 167 attended the more general educational programs of the University of Kashan. This General University Group included 110 men ( $M$  age = 23.4,  $SD$  = 4.1) and 57 women ( $M$  age = 22.6,  $SD$  = 3.2). The other 184 participants were students at the Seminary of Rudehen. This Islamic Seminary Group included 72 men ( $M$  age = 27.2,  $SD$  = 10.4) and 112 women ( $M$  age = 25.3,  $SD$  = 7.5). An analysis of variance found the Islamic Seminary Group to be older,  $F(1, 300) = 9.10, p < .01$ . Gender and Group-by-Gender interaction effects for age were not statistically significant,  $F_s(1, 300) < 3.50, p = ns$ .

### *Measures*

**Muslim Experiential Religiousness.** Muslim Experiential Religiousness (Ghorbani et al., 2013c) contained 15 items that referenced personal efforts to submit to and get closer to God in a loving relationship ( $\alpha = 0.91, M$  response per item = 4.12,  $SD = 0.72$ ). One expression of submission said, for instance, "Experiences of submitting to God cause me to feel more vital and motivated." Illustrating a loving relationship was the self-report, "When I look deeply within myself, I understand that the experience of loving God is worth any effort in my life." Representative of the desire to get closer to God was the assertion, "Intimate closeness to God is at the core of my efforts to be religious."



**Attitude toward Islam.** Twenty-three statements made up the Sahin and Francis (2002) Attitude toward Islam Scale (also see Francis et al., 2008). A representative item asserted, "I find it inspiring to listen to the *Qur'ān*." Two statements displayed negative item-to-total correlations. One said, "God means everything to me." The other asserted, "I do not find it hard to believe in God." With these items removed, a confirmatory factor analysis (CFA) revealed that this measure was not unidimensional in Iran just as it had not been in a previous Pakistani study (Khan & Watson, 2006). The factor structure observed in Pakistan also did not fit these Iranian data. An exploratory factor analysis uncovered three Iranian factors, but significant correlations of all factors with other variables were always in the same direction. In other words, factors defined differences that did not make an empirical difference. All analyses, consequently, focused on the full 21-item scale ( $\alpha = 0.91$ ,  $M = 4.18$ ,  $SD = 0.68$ ).

**Islamic Religious Reflection.** A preliminary CFA suggested that the Islamic Religious Reflection Scale (Dover et al., 2007) was not a unidimensional construct,  $\chi^2(54) = 168.59$ ,  $p < .000$ , RMSEA = 0.078, CFI = .899, SRMR = 0.052. Use of the Faith and Intellect Oriented Reflection factors (Ghorbani, Watson, Chen, & Dover, 2013a) yielded better fit indices,  $\chi^2(53) = 150.50$ ,  $p < .000$ , RMSEA = 0.072, CFI = .914, SRMR = 0.049. This improvement was, in fact, statistically significant,  $\Delta\chi^2(1) = 18.09$ ,  $p < .001$ . This 2-factor solution, nevertheless, failed to reach conservative criteria of good fit (e.g., Byrne, 2010), but Hu and Bentler (1999) recommended that two of three criteria be met to identify *acceptable fit*: a SRMR of less than .08, a RMSEA of less than .06, and a CFI greater than .90. In short, the 2-factor model was superior to a unidimensional model and displayed acceptable fit. Subsequent analyses consequently focused on these two factors. Illustrative of the 7-item Faith Oriented measure was the claim, "Faith in God is what nourishes the intellect and makes the intellectual life prosperous and productive" ( $\alpha = 0.81$ ,  $M = 4.04$ ,  $SD = 0.77$ ). The 5-item Intellect Oriented subscale included such statements as, "I believe as humans we should use our minds to explore all fields from science to metaphysics" ( $\alpha = 0.57$ ,  $M = 4.18$ ,  $SD = 0.68$ ).

**Afterlife Motivation.** Six items made up the Afterlife Motivation Scale (Ghorbani et al., 2008). Representative of this instrument was the self-report, "I am religious because I want to spend eternity in heaven." This measure proved to be internally reliable ( $\alpha = 0.81$ ,  $M = 3.60$ ,  $SD = 0.85$ ).

**Basic Need Satisfaction.** Responses to the general version of the Basic Needs Satisfaction measure (Deci & Ryan, n.d.; Johnston & Finney, 2010) ranged from 1 (it is not true) to 7 (it is completely true). An Autonomy subscale included such statements as, "I feel like I am free to decide for myself how to live my life." Reflective of a Competence subscale was the claim, "People I know tell me I am good at what I do." Indicative of a Relatedness subscale was the

self-report, "I really like the people I interact with." Preliminary analyses revealed that internal reliabilities for these three subscales were unacceptably low ( $\alpha < .60$ ). CFA procedures also demonstrated that a 3-factor structure,  $\chi^2(186) = 1099.13$ ,  $p < .001$ , RMSEA = 0.118, CFI = .456, SRMR = 0.118, offered little improvement over a unidimensional scoring of the full scale,  $\chi^2(189) = 1109.89$ ,  $p < .001$ , RMSEA = 0.118, CFI = .452, SRMR = 0.118. All subsequent analyses, therefore, centered on use of the full 21-item Basic Needs Satisfaction Scale ( $\alpha = .75$ ,  $M = 4.51$ ,  $SD = 0.73$ ).

### *Procedure*

All research procedures complied with institutional regulations governing research ethics. Participant involvement was wholly voluntary and completely confidential. Researchers administered questionnaire booklets to student groups of varying size in a classroom setting. The scoring of all scales focused on the average response per item.

All psychological scales appeared in a single questionnaire booklet. Development of the Muslim Experiential Religiousness Scale occurred in Persian. Translation of all other instruments took place in preparation for the present or previous projects. In these procedures, one individual translated an instrument into Persian, and then another translated it back into English. Any meaningful differences between original and back-translated statements were eliminated through revisions in the Persian translation. Measures appeared in the booklet in the sequence in which they were reviewed above. All but one of these scales used 1-to-5 Likert response options.

## **Results**

### *Correlations*

Table 1 presents the correlations among scales. Especially noteworthy was the strong positive relationship of Muslim Experiential Religiousness with the Attitude toward Islam Scale. Muslim Experiential Religiousness also displayed direct linkages with the other religious measures and with Basic Needs Satisfaction. The same pattern of outcomes appeared for Attitude toward Islam and for the two types of religious reflection. Afterlife Motivation failed to correlate with Basic Needs Satisfaction.

### *Mediation of Attitude toward Islam Relationships*

Again, the hypothesis was that Muslim Experiential Religiousness would at least partially mediate Attitude toward Islam relationships with other

TABLE 1 *Correlations of Muslim experiential religiousness with other religious and basic needs satisfaction measures*

Measures	1.	2.	3.	4.	5.	6.
1. Muslim Experiential Religiousness	–	.78***	.57***	.68***	.31***	.40***
2. Attitude toward Islam		–	.67***	.74***	.38***	.47***
3. Intellect Oriented Reflection			–	.60***	.30***	.45***
4. Faith Oriented Reflection				–	.35***	.43***
5. Afterlife Motivation					–	.13
6. Basic Needs Satisfaction						–

*N* = 351 Note. \*\*\* *p* < .001

measures. Mediation first requires that the independent variable of a model predict the mediator (Baron & Kenny, 1986). The relationship of Attitude toward Islam with Muslim Religious Reflection was highly significant,  $\beta = .78, p < .001$ .

Then the independent variable must also predict a potential dependent variable on the first step of multiple regression procedures. Attitude toward Islam in fact displayed connections with higher levels of Intellect Oriented Reflection (.67), Faith Oriented Reflection (.74), Afterlife Motivation (.38), and Basic Needs Satisfaction (.47, *ps* < .001).

Finally, mediation appears if addition of the mediator on the second step of a multiple regression increases the total variance explained and eliminates or significantly reduces the independent variable association with the dependent variable. In all but one analysis, Muslim Experiential Religiousness failed to make a significant contribution to the prediction equation,  $\Delta R^2 < .006, p = ns$ . In the one exception, Muslim Experiential Religiousness explained greater variance in Faith Oriented Reflection,  $\Delta R^2 = .03, p < .001$ , with which it displayed a direct association,  $\beta = .27, p < .001$ . Though reduced from a  $\beta$  of .74 on this second step, the Attitude toward Islam relationship with Faith Oriented Reflection, nevertheless, remained significant,  $\beta = .53, p < .001$ . A Sobel test identified this mediation effect to be statistically significant,  $Z = 4.70, p < .001$ . In short, Muslim Experiential Religiousness partially mediated the Attitude toward Islam association with Faith Orientated Reflection.

#### *Moderation of Attitude toward Islam Relationships*

Prior to moderation analyses, procedures standardized Muslim Experiential Religiousness and Attitude toward Islam measures in order to address the

problem of multicollinearity (Aiken & West, 1991). Evidence of moderation appeared if the cross-product of these standardized scores increased the variance explained on the second step of multiple regressions after Attitude toward Islam and Muslim Experiential Religiousness had been entered on the first step.

Two outcomes pointed toward moderation. Interaction of these two measures increased the variance explained in Basic Needs Satisfaction,  $\beta = .13$ ,  $p < .05$ , and the effect observed for Afterlife Motivation was of borderline significance,  $\beta = -.12$ ,  $p < .055$ . Figure 1 clarifies these moderation effects. The Attitude toward Islam association with greater Basic Needs Satisfaction was stronger when Muslim Experiential Religiousness was higher, whereas the direct linkage of Islamic attitudes with Afterlife Motivation tended to be more robust when Muslim Experiential Religiousness was weaker.

### *Education and Gender Differences*

As noted previously, the Islamic Seminary Group was older; so, analyses of group and gender differences controlled for age. In a Multivariate Analysis of Covariance (MANCOVA), the age covariate failed to produce a significant overall effect, Wilks' Lambda = .97,  $F(6, 294) = 1.50$ ,  $p = ns$ . This MANCOVA did uncover significant overall contrasts between the Islamic Seminary and General University Groups, Wilks' Lambda = .84,  $F(6, 294) = 9.47$ ,  $p < .001$ , and between men and women, Wilks' Lambda = .93,  $F(6, 294) = 3.92$ ,  $p < .01$ . Interactions between groups and gender proved to be nonsignificant, Wilks' Lambda = .97,  $F(6, 294) = 1.46$ ,  $p = ns$ .

Table 2 summarizes the Education and Gender Group main effects. Islamic seminarians scored higher on Muslim Experiential Religiousness and on of all other religious variables. Women displayed higher levels of Muslim Experiential Religiousness, Attitude toward Islam, Intellect Oriented Reflection, and Faith Oriented Reflection.

### *Mediation of Education Group Differences*

Muslim Experiential Religiousness in previous Iranian investigations mediated a wide range of religious and psychological differences exhibited by Islamic seminarian and general university students. In these earlier studies, however, Muslim Experiential Religiousness also mediated a broad array of relationships observed for a number of other religious variables (Ghorbani et al., 2013b, 2013c). Muslim Experiential Religiousness in the present project displayed a much more limited ability to mediate Attitude toward Islam relationships, and the Attitude toward Islam linkage with Muslim Experiential Religiousness was surprisingly robust. A more psychometrically rigorous

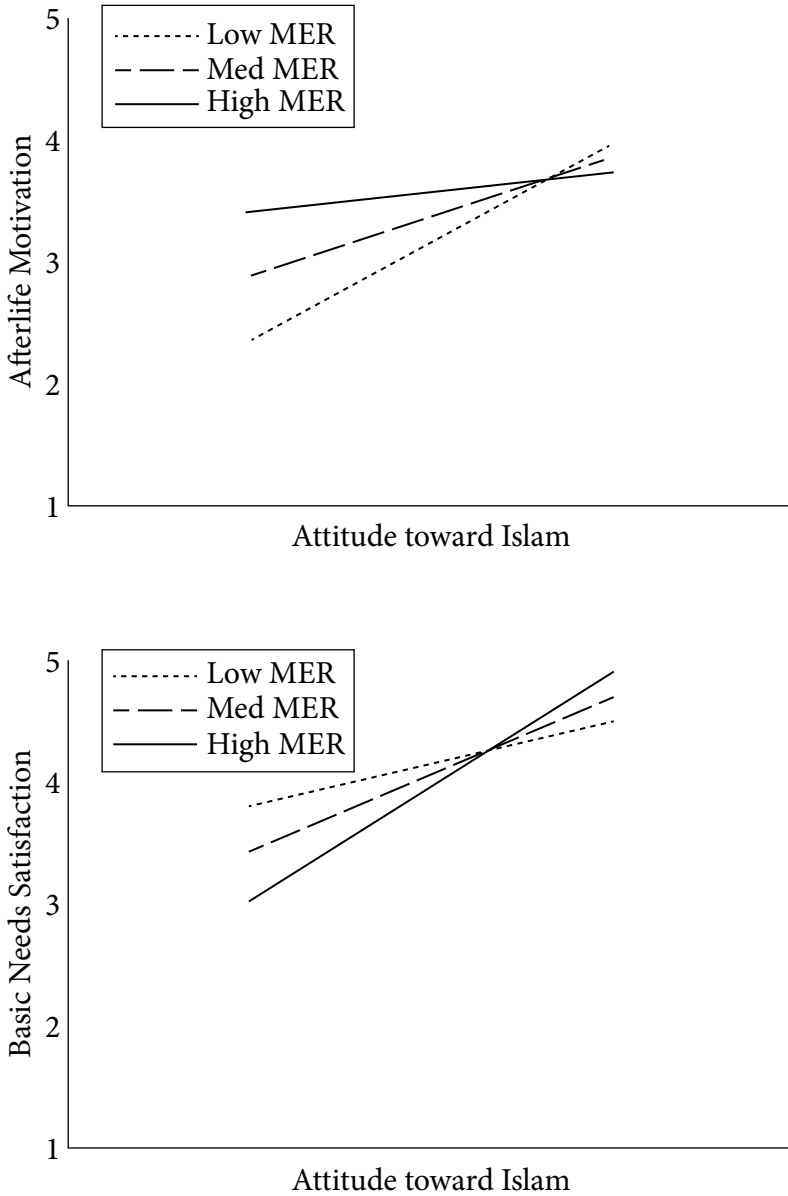


FIGURE 1 Significant moderation effects of Muslim Experiential Religiosity (MER) on relationships observed for Attitudes toward Islam. The three lines of each graph represent the Muslim Experiential Religiosity moderator at low (2 SD below its mean), medium (mean), and high (2 SD above its mean) levels.

TABLE 2 MANCOVA Group and Gender main effects in analysis of religious and psychological dependent variables

Dependent Variable	Group					Gender				
	Religious		General		F	Men		Women		F
	M	SEM	M	SEM		M	SEM	M	SEM	
Muslim Experiential Religiousness	4.23	0.06	4.04	0.06	5.09*	4.00	0.06	4.27	0.06	11.00**
Attitude toward Islam	4.40	0.05	3.98	0.06	29.12***	4.05	0.06	4.33	0.05	13.68***
Intellect Oriented Reflection	4.13	0.06	3.65	0.06	33.66***	3.74	0.06	4.04	0.06	13.58***
Faith Oriented Reflection	4.21	0.06	3.94	0.07	8.88**	3.92	0.06	4.23	0.06	12.68***
Afterlife Motivation	3.75	0.07	3.47	0.08	7.10**	3.54	0.08	3.67	0.07	1.58
Basic Needs Satisfaction	4.55	0.06	4.48	0.70	0.60	4.48	0.07	4.55	0.56	0.47

Note. Degrees of freedom for each analysis was 1, 299.

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

assessment of the Education Group mediation issue, therefore, seemed to require an attempt to determine if Muslim Experiential Religiousness would add anything to the explanation of group differences beyond that accounted for by Attitude toward Islam. To address this question, mediation analyses used both Muslim Experiential Religiousness and Attitude toward Islam as simultaneous potential mediators of group differences.

In these procedures, a dichotomous variable differentiated between the General University (0) and Islamic Seminary (1) Groups. This Religious Education variable served as the independent variable in a model that specified both Attitude toward Islam and Muslim Experiential Religiousness as potential mediators. All analyses began with a preliminary step that controlled for gender. Such control was necessary given the main effects observed for gender and given the relatively stronger representation of men in the general and of women in the Islamic seminary groups,  $\chi^2(1) = 30.38, p < .001$ . Procedures did not control for age because the MANCOVA revealed the influences of this covariate to be nonsignificant.

After controlling for gender, Religious Education exhibited the necessary association with both potential mediators: Attitude toward Islam,  $\beta = .39, p < .001$ , and Islamic Experiential Religiousness,  $\beta = .22, p < .001$  (Baron & Kenny, 1986). With regard to the potential dependent variables, Religious Education

did in fact predict Intellect (.39) and Faith (.26) Oriented Reflection, Afterlife Motivation (.19), and Basic Needs Satisfaction (.13,  $ps < .05$ ).

Multiple mediation analyses followed the conceptual framework of Preacher and Hayes (2008) and used the software of Hayes (2005). Tests of significance rested upon use of 1000-sample bootstrap methods with a 95% confidence interval. A significant mediation effect occurred if zero did not fall within the 95% confidence interval. The last column of Table 3 makes it clear that significant overall mediation effects appeared for each dependent variable. Attitude toward Islam and Muslim Experiential Religiousness together partially mediated the Religious Education association with Intellect Oriented Reflection and fully mediated its connection with Faith Oriented Reflection. In both of these outcomes, Attitude toward Islam made the more robust contribution to the mediation effect. Attitude toward Islam alone also produced a full mediation of the Religious Education relationship with Afterlife Motivation and with Basic Needs Satisfaction.

### *Clarifying Analysis*

Perhaps most surprising in these results was the strong Muslim Experiential Religiousness relationship with Attitude toward Islam. The degree to which these two measures operationalized separate constructs, therefore, was of some interest. In exploring this concern, a CFA found that combining items from both instrument into a single dimension failed to identify a good fit,

TABLE 3 *Indirect effects of attitude toward Islam (ATI) and Muslim Experiential Religiousness (MER) as Multiple Mediators of Group Education (EDU) differences in religious and psychological functioning tested by 1000 bootstrap 95% confidence interval method, controlling for gender*

Dependent Variable	Direct Effect	Indirect Effect in Multiple Mediation Model		
	EDU	ATI (95% CI)	MER (95% CI)	Total (95% CI)
Intellect Oriented Reflection	.24***	.29 (.19 to .40)*	.04 (.002 to .11)*	.34 (.23 to .44)*
Faith Oriented Reflection	-.02	.33 (.22 to .45)*	.08 (.03 to .16)*	.41 (.29 to .54)*
Afterlife Motivation	.09	.21 (.11 to .35)*	.01 (-.06 to .08)	.23 (.14 to .33)*
Basic Needs Satisfaction	-.10	.26 (.15 to .38)*	.03 (-.02 to .08)	.29 (.20 to .40)*

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

$\chi^2(594) = 1878.52, p < .000, RMSEA = .078, CFI = .787, SRMR = .060$ . Separating the measures into two separate factors yielded a better fit,  $\chi^2(593) = 1632.75, p < .000, RMSEA = .071, CFI = .827, SRMR = .056$ . This improvement was statistically significant,  $\Delta\chi^2(1) = 245.77, p < .001$ .

Though relatively better, the two factor solution still failed to define good fit in absolute terms. Procedures, therefore, reexamined all Muslim Experiential Religiousness and Attitude toward Islam items combined together in a single exploratory factor analysis. A principal axis factor analysis with a varimax rotation uncovered six factors with eigenvalues greater than 1.0, explaining 48.5% of the variance.

As defined by maximal loadings, Muslim Experiential Religiousness items described two factors. All but two of these 15 items displayed maximal loadings of .34 or greater on a single factor associated with an eigenvalue of 2.08 and an explained variance of 5.76%. The strongest loading of .62 appeared for the self-report, "Sometimes, submission to God simultaneously creates within me a fear and a love of God." Two other statements also loaded .34 or greater on this very same Muslim Experiential Religiousness factor, but they, nevertheless, displayed maximal loadings on a different factor: eigenvalue = 1.11, variance explained = 3.10%. One of these items said, "The experience of loving God produces a special enthusiasm within me" (.45). The other asserted, "Experiencing submission and closeness to God enhances my understanding of God" (.48).

Fifteen of 21 Attitude toward Islam items exhibited maximal loadings of .39 or greater on the first factor of this analysis; eigenvalue = 13.57, variance explained = 37.70%. Associated with the strongest loading of .70 was the claim, "I believe that God helps people." With an eigenvalue of 1.48, and a variance explained of 4.11%, another Attitude toward Islam factor combined the self-report that "Attending the Mosque is very important to me" (.53) with the statement that "I feel that I am very close to God" (.46). A third Attitude toward Islam factor combined three items; eigenvalue = 1.26, variance explained = 3.46%. These reverse scored statements said, "I think going to the Mosque is a waste of my time" (.72), "I think Mosque sermons/*khutbah* are boring" (.52), and "I think praying/*du'a'* does no good" (.52). A single Attitude toward Islam item defined the final factor, eigenvalue = 1.05, variance explained = .290. It said, "I think praying/*salāt* is a good thing" (.44).

In short, an examination of maximal loadings demonstrated that Muslim Experiential Religiousness and Attitude toward Islam operationalized discriminatively different dimensions. At the same time, however, seven statements from the Attitude toward Islam Scale also displayed noteworthy secondary loadings .30 or greater on the principal Muslim Experiential Religiousness factor, and these items presumably helped explain the strong relationship



between these two measures. These items said, "I find it inspiring to listen to the *Qur'ān* (.30), "Islam means a lot to me" (.37), "Prayer/*salāt* helps me a lot" (.36), "I feel that I am very close to God" (.31), "I think praying/*salāt* is a good thing" (.39), "God is very real to me" (.38), and "Belief in God means much to me" (.32).

## Discussion

Spirituality can be described as a search for the sacred (Pargament, 2013). A recent Iranian research program operationalized an Islamic search for the sacred in a Muslim Experiential Religiousness Scale. Based upon *Qur'ānic* perspectives, this instrument expressed Muslim spirituality in terms of efforts of the faithful to submit to and get closer to God in a loving relationship (Ghorbani et al., 2013b, 2013c). The present investigation further documented the empirical potentials of this operationalization of Muslim spirituality. Specifically, Muslim Experiential Religiousness correlated positively with previously unexamined indices of Islamic commitment, including Attitude toward Islam, Islamic Religious Reflection, and Afterlife Motivation. Direct relationships with Basic Needs Satisfaction also confirmed once again that Islamic spirituality predicts more adjusted forms of psychological functioning.

Muslim Experiential Religiousness also partially mediated the linkage of Islamic attitudes with Faith Oriented Reflection and moderated Attitude toward Islam relationships with Afterlife Motivation and with Basic Needs Satisfaction. In line with previous findings (Ghorbani et al., 2013b, 2013c), Islamic seminarians scored higher than general university students on Muslim Experiential Religiousness, and this outcome presumably reflected the stronger spiritual orientation of individuals who had chosen to pursue a religious career. In mediation analyses, Muslim Experiential Religiousness also combined with Attitude toward Islam to help explain higher seminarian levels of both Faith and Intellect Oriented Religious Reflection.

As in previous investigations, mediation and moderation effects indicated that Muslim spirituality may help actualize the adaptive potentials of Islam. The partial mediation of the Attitude toward Islam linkage with Faith Oriented Reflection suggested that Muslim Experiential Religious had an integrative role in maintaining the Islamic quest for meaning, and such a conclusion would also apply to the mediation of the seminarian religious differences. Moderation of the Attitude toward Islam relationship with Basic Needs Satisfaction further suggested that Muslim spiritually seemed to invigorate or activate the positive psychological potentials of Islam.

Noteworthy was the moderation effect observed for Afterlife Motivation. Its positive relationship with Attitude toward Islam tended to be stronger in those who were lower rather than higher in their Muslim Experiential Religiousness. Construction of the Afterlife Motivation Scale rested upon assumptions that this reason for being religious is at least somewhat immature (Ghorbani et al. 2002). In the present and previous projects (Ghorbani et al., 2008), however, Afterlife Motivation linkages with generally higher levels of Iranian religiosity seemed to argue against such a negative interpretation. The stronger Afterlife Motivation relationship with Islamic attitudes in those who were less spiritual, nevertheless, supported the possibility that these motivations for being religious fail to express the Islamic ideal. This result also seemed especially useful in illustrating the potentials of Muslim Experiential Religiousness for offering subtle insights into the Muslim psychology of religion. Finally, the observation that Afterlife Motivation was the only Islamic measure that failed to correlate positively with Basic Needs Satisfaction perhaps supplied additional evidence that it operated as a less mature reason for being religious.

This investigation identified the Attitude toward Islam Scale (Sahin & Francis, 2002) as an especially promising measure of Muslim commitment. Like Muslim Experiential Religiousness, it served as a highly reliable predictor of both forms of religious reflection and of Afterlife Motivation. In addition, positive psychological implications seemed evident in its direct relationship with Basic Needs Satisfaction.

Attitude toward Islam defined 61% of the variance in Muslim Experiential Religiousness. Factor analytic procedures, nevertheless, demonstrated that the two measures were discriminable. These two scales scored separately improved the fit of the data over a 1-factor model. An exploratory factor analysis also revealed that items from each displayed maximal loadings on separate dimensions. Some Attitude toward Islam items did display noteworthy secondary loadings on the main Muslim Experiential Religiousness factor. One said, for example, "I feel that I am very close to God." Others made reference to prayer, enthusiasm in listening to the *Qur'an*, and positive evaluations of a wide range of beliefs and practices that suggested an at least indirect Islamic search for the sacred. Overlap in spiritual content, therefore, seemed to explain the strong relationship between these two variables and thus further documented the importance of measuring Muslim spirituality. On the other hand, the ability of Muslim Experiential Religiousness to mediate and moderate at least some Attitude toward Islam relationships served as an especially impressive demonstration of its utility as a measure explicitly dedicated to the recording of Muslim spirituality.

Self-Determination Theory presumably implies that the long term viability of any form of social life must rest upon opportunities for citizens to satisfy

innately central intrinsic motivations. Fukuyama (2006) has argued that Islamic societies inhibit the opportunities for self-recognition that underlie the democratic ideal of self-determination (see also, Ghorbani, Watson, Saeedi, Chen, & Silver, 2012). In this study, however, Muslim Experiential Religiousness, Attitude toward Islam, and the two forms of Islamic Religious Reflection all correlated positively with Basic Needs Satisfaction. Such data suggest that the dynamics of self-determination can operate and even flourish within Muslim forms of consciousness.

With one exception, women scored higher than men on all Muslim measures. These outcomes mirrored gender differences observed generally in the psychology of religion (Hood, Spilka, Hunsberger, & Gorsuch, 1996). The one exception was a failure to observe a gender difference in Afterlife Motivation. This result perhaps served as yet one more demonstration of the ambiguous religious implications of Afterlife Motivation.

### **Limitations and Conclusion**

As always, limitations of this study necessitate interpretative caution. University students and Islamic seminarians were not representative of the wider Iranian population, of other Muslim societies, or of Muslims living in countries in which they are in the minority. Final conclusions about the more general implications of these data will, therefore, require investigations examining more representative and culturally diverse samples.

Another obvious limitation involved the lower internal reliabilities of Intellect Oriented Reflection and of the Basic Needs Satisfaction subscales. Consolidation of the Autonomy, Relatedness, and Competence subscales into a single Basic Needs Satisfaction Scale seemed successful in addressing this problem but presumably with the loss of a more nuanced understanding of self-determination in Iran. Self-determination measures, consequently, need to be refined for use in Iran, a possibility that has been apparent in the West as well (e.g., Johnston & Finney, 2010). Intellect Oriented Reflection included only five items, and future research may require the development of more or of different expressions of this construct in order to improve its internal reliability. Even more robust relationships with other variables might appear with a psychometrically stronger instrument.

Moderation effects documented the important role of spirituality in actualizing the impact of Muslim commitments. Especially revealing was how the moderation effect observed for Afterlife Motivation highlighted the ability of Muslim Experiential Religiousness to yield subtle insights into the Muslim

psychology of religion. At the same time, however, this moderation effect was of borderline significance and clearly deserves further research attention. Particularly useful, perhaps, would be additional investigations into Afterlife Motivation that examined moderation effects using an index of Muslim religiosity that did not have the strong overlap in spiritual content that was apparent with the Attitude toward Islam Scale.

Finally, analysis of student and gender differences involved a quasi-experimental design, and all other findings rested upon correlational data. As a consequence, no conclusions can be drawn about causality. It cannot be claimed, for instance, that Muslim Experiential Religiousness caused Faith Oriented Reflection or vice versa. All correlations and group differences could have reflected the causal influence of other unexamined variables.

In conclusion, this investigation most importantly supplied additional evidence of the importance of studying Muslim spirituality. The Muslim Experiential Religiousness Scale once again proved to be a useful measure for pursuing that purpose. More generally, these data also documented the potentials of a growing array of Islamic measures to encourage progress in the Muslim psychology of religion (Abu-Raiya & Pargament, 2011). This may be especially true when procedures simultaneously analyze multiple measures of Muslim commitment. In the present study, for example, Muslim Experiential Religiousness usefully clarified the implications of Attitude toward Islam, Islamic Religious Reflection, and Afterlife Motivation. Such data suggest that the growing availability of relevant measures presents important research opportunities for developing the Muslim psychology of religion.

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