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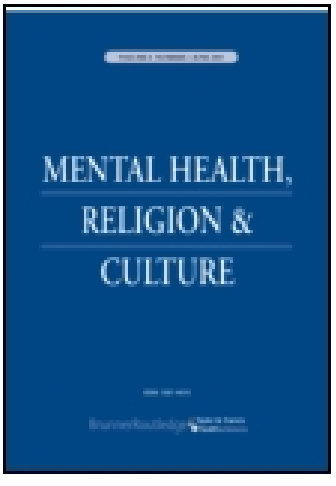

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Varieties of openness in Tehran and Qom: psychological and religious parallels of faith and intellect-oriented Islamic religious reflection

Nima Ghorbani[a], P.J. Watson[b]*, Zhuo Chen[b] and Hanan Dover[c]

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This study examined whether faith and intellect-oriented religious reflection would be polarised in Iranian Muslins as they appear to be in American Christians. Iranian students at a university in Tehran and at an Islamic seminary in Qom responded to Faith and Intellect-Oriented Islamic Religious Reflection measures along with scales recording various forms of religious commitment and psychological openness. Both types of religious reflection and the Intrinsic Religious Orientation predicted greater Integrative Self-Knowledge, Openness to Experience, and Need for Cognition and also interacted in ways suggesting complexity in Muslim thought. Comparisons between Tehran and Qom students supported the same conclusion. The Quest Religious Orientation had limited relevance for understanding Muslim commitments. The Extrinsic Personal Religious Orientation predicted greater and the Extrinsic Social Religious Orientation predicted lower psychological openness. These data contrasted with previous evidence of polarisation in the religious reflection of American Christians. They also argued against any simple equation of Muslim commitments with cognitive and religious rigidity.

Keywords: Islam; religious reflection; Iran; faith; intellect; openness

Stereotypes often depict Muslims as fanatics who are rigid in their religious and cognitive functioning. Dover, Miner, and Dowson (2007) recently emphasised, however, that the Qur'an encourages a search for religious understanding that is based upon objective evidence and logical proof. Using a sample of Australian and Malaysian Muslims, they sought to express the complexity of Muslim thinking in a 14-item, self-report questionnaire, the Islamic Religious Reflection Scale. Their hypotheses about the structure of Islamic Religious Reflection received support in a confirmatory factor analysis (CFA). A Faith and Reason factor appeared in such self-reports as, ''I believe that faith in Allah is not complete when it is followed blindly, or unquestioningly.'' Seeking Truth was exemplified in the claim that ''in the search for knowledge, one should resort to all methods, be they experimental or rational.'' Science and Religion was evident in the assertion, ''I believe that through science and religion one can really understand the meaning of life.'' Illustrating Reflective Commitment was agreement with the statement that ''I have seriously thought about my religious beliefs and I am very committed to the

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faith I now have." Dover et al. also demonstrated that these four factors defined a single higher order Muslim Religious Reflection factor and concluded that this fact along with the content of the scale items pointed toward religious and cognitive complexity rather than rigidity and fanaticism in Muslim thinking.

Of further interest was the discovery that Muslim Religious Reflection predicted lower scores on the Quest Religious Orientation Scale (Batson & Schoenrade, 1991a, 1991b). This instrument attempts to operationalise a religious search for meaning in life that is cognitively complex and that avoids the doctrinal rigidities and social desirability concerns which supposedly characterise more conservative forms of faith (Batson, Schoenrade, & Ventis, 1993). By definition, the Quest Scale assumes that religious openness necessarily includes an embrace of doubt. Dover et al. (2007) argued instead, however, that doubt is incompatible with a truly Islamic quest for meaning, which actively seeks truth within the assumptions of Muslim faith. Doubt necessarily operates from a perspective outside the tradition and consequently cannot be integral to Islamic thought. They also suggested that the situation is different for Christians living in the more secularised West where the doubting expressed by the Quest Scale is considered to be a more acceptable and even a desirable dimension of religious commitment.

But is Christian religious reflection compatible with a doubting Quest? Watson, Chen, and Hood (2011) tried to answer that question by translating items from the Islamic Religious Reflection Scale into Christian language. Psychometric considerations identified 12 of the 14 translations to be successful and revealed that they could be organised into two factors. Faith-Oriented Reflection appeared in such claims as, "Faith in Christ is what nourishes the intellect and makes the intellectual life prosperous and productive." Exemplifying Intellect-Oriented Reflection was the self-report that "I believe as humans we should use our minds to explore all fields of thought from science to metaphysics." Unexpectedly, these two factors correlated negatively. Faith-Oriented Reflection also displayed negative relationships with Quest and Openness to Experience and a positive relationship with the Intrinsic Religious Orientation. Intellect-Oriented Reflection exhibited an opposite pattern of correlations. Such data suggested a polarisation in Christian epistemological perspectives with Faith-Oriented Reflection compatible and Intellect-Oriented Reflection incompatible with sincere, intrinsic commitments.

Most importantly, the present project asked whether the religious reflection of Muslims might be polarised as well. Such an outcome seemed possible in the finding of Dover et al. (2007) that their Reflective Commitment factor loaded negatively rather than positively on the higher order Muslim Religious Reflection factor. In response to this result, Dover et al. suggested that Reflective Commitment "may represent an indicator of *completed* reflection, and thus is negatively associated with the *ongoing* religious reflection indicated by the other factors" (p. 201, their emphasis). In other words, the religious reflection of Muslims might coalesce into more stable conceptual frameworks that are indeed incompatible with more dynamic thought processes. If so, then the Faith and Intellect-Oriented Reflection factors should appear in Muslim samples and should display the same polarised pattern of correlations that was observed in American Christians.

Exploration of this issue occurred in Iran. The use of Iranian Muslims as participants had the advantage of extending analysis of the Islamic Religious Reflection Scale to a different cultural context. Moreover, the political and social structures of Iran are formally organised around Islamic assumptions and actively resist at least some Western influences. Faith-Oriented Reflection presumably would flourish in such an environment, but Intellect-Oriented Reflection might seem more compatible with secularised Western assumptions. Iran, therefore, appeared to offer an especially intriguing test of the

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possibility of polarisation in Islamic Religious Reflection. In examining that possibility, the present investigation also conducted a broader analysis of "openness," tested hypotheses about how Islamic Religious Reflection might operate within the dynamics of Muslim religious commitments, and examined whether religious reflection might vary across meaningfully different Iranian religious contexts.

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Varieties of openness

This project examined an array of measures in order to analyse various forms of religious and psychological openness in Iran. As in the Dover et al. (2007) study, the attempt to assess religious openness involved administration of the Quest Religious Orientation Scale (Batson & Schoenrade, 1991a, 1991b). If religious reflection is polarised in Iran, then Faith-Oriented Reflection presumably should correlate negatively and Intellect-Oriented Reflection should correlate positively with Quest. Again, however, Dover et al. argued that Quest operates from a perspective that is incompatible with Muslim religious commitments, making it unclear what scores on this measure might actually mean relative to the openness of specifically Islamic forms of faith.

The Integrative Self-Knowledge Scale (Ghorbani, Watson, & Hargis, 2008) evaluated openness to self-experience. This instrument records an on-going attempt of the individual to attend to past, present, and desired future self-experience and to integrate that self-experience into a meaningful whole. Early (Haque, 2004) and more recent (Shimamoto, 2008) Islamic thought identifies self-knowledge as a Muslim ideal, and previous studies have demonstrated that Integrative Self-Knowledge predicts psychological and religious adjustment in Iran (e.g., Ghorbani, Watson, Rezazadeh, & Cunningham, 2011; Ghorbani, Watson, Shamohammadi, & Cunningham, 2009). Western frameworks also endorse openness to self-experience (e.g., Ghorbani, Watson, Bing, Davison, & LeBreton, 2003), and Integrative Self Knowledge predicts adjustment in the United States as well (Ghorbani et al., 2008). The expectation, therefore, was that both Faith and Intellect-Oriented Religious Reflection should correlate positively with Integrative Self-Knowledge.

Two instruments measured cognitive openness. The Openness to Experience Scale records an active, imaginative, and creative cognitive style (Goldberg, 1999). The Need for Cognition Scale assesses individual differences in the motivation to engage in effortful and complex thinking (Cacioppo, Petty, Feinstein, & Jarvis, 1996). Again, Faith-Oriented Reflection correlated negatively and Intellect-Oriented Reflection correlated positively with cognitive openness in the United States (Watson et al., 2011). Polarisation in Iran would presumably be associated with the same pattern of outcomes.

Islamic religious reflection and intrinsic religious orientation

Allport and Ross (1967) Religious Orientation Scales, as modified for use in Iran, made it possible to examine the broader religious implications of Islamic Religious Reflection. The Intrinsic Religious Orientation Scale records personal efforts to make religion the ultimate end in life and is a frequently administered index of sincere religious commitments (e.g., Donahue, 1985). Extrinsic motivations involve the use of religion for other ends. With the Extrinsic Personal Religious Orientation, the individual uses religion to achieve a sense of well-being. The Extrinsic Social Religious Orientation reflects a use of religion to satisfy social desires. In previous Iranian and Pakistani studies, the Intrinsic and Extrinsic Personal Orientations largely predicted adjustment in Muslim samples, whereas the

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Extrinsic Social motivation tended to be more maladjusted (Ghorbani, Watson, & Khan, 2007a). In the United States, the Intrinsic Religious Orientation was associated with greater Faith-Oriented and lower Intellect-Oriented Reflection (Watson et al., 2011). The same correlations should stand as evidence of polarisation in Iran.

Of further interest was the possibility that Faith but not Intellect-Oriented Reflection might exert a moderating influence (Baron & Kenny, 1986) on the relationship of intrinsic commitments with forms of openness that proved to be incompatible with Muslim perspectives. Specifically, Faith-Oriented Reflection might magnify a Muslim religious rejection of Quest, and perhaps of Openness to Experience and Need for Cognition as well. Here, sincere religious commitments and complexity in faithful religious thought would interact to encourage an even stronger rejection of what religious beliefs suggested should be rejected.

Moderation effects for Integrative Self-Knowledge should be different, given that openness to self-experience is a Muslim psychological ideal (Haque, 2004; Shimamoto, 2008). Faith-Oriented Reflection should combine with the Intrinsic Religious Orientation to encourage an even more dynamic enhancement of this form openness. In other words, a sincere religious motivation informed by sophisticated religious thought should translate into an even stronger embrace of what religious faith indicates should be embraced. The possible incompatibility of Intellect-Oriented Reflection with Muslim commitments suggested that it might be less well suited to moderate Intrinsic Religious Orientation relationships with Integrative Self-Knowledge.

Tehran versus Qom

Finally, this project examined Islamic Religious Reflection in two different social contexts with importantly different cultural and religious implications. Qom is a holy city for the Shiite Muslims of Iran, and Qom seminary students studying to become mullahs responded to the measures of this project. University of Tehran students participated as well. Educational objectives of the Tehran sample were not directly religious, but instead involved efforts to move towards more "secular" careers. Qom students, therefore, served as relative exemplars of a stronger commitment to Islam. Assuming a polarisation of Islamic thought, the expectation was that seminary students should score higher on Faith-Oriented Reflection, the Intrinsic Religious Orientation, and Integrative Self-Knowledge and lower on Intellect-Oriented Reflection, Quest, Openness to Experience, and Need for Cognition.

Hypotheses

In summary, a previous study demonstrated that the religious reflection of American Christians was polarised. Procedures of the present project made it possible to test the hypothesis that polarisation would be apparent in Iranian Muslims as well. Evidence of polarisation would be most obvious in the confirmation of five most important sets of hypotheses.

First, the responding of Iranian Muslims to items from the Islamic Religious Reflection Scale should reveal the existence of Faith and Intellect-Oriented Reflection factors, and these two measures should correlate negatively.

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Second, Faith-Oriented Reflection should correlate negatively and Intellect-Oriented Reflection should correlate positively with Quest, Openness to Experience, and Need for Cognition.

Third, Faith-Oriented Reflection should correlate positively and Intellect-Oriented Reflection negatively with the Intrinsic Religious Orientation. In addition, Faith but not Intellect-Oriented Reflection should moderate relationships of the Intrinsic Religious Orientation with any measures of openness that proved to be incompatible with Muslim commitments.

Fourth, relative to students studying at the University of Tehran, seminary students in Qom should score higher on Faith-Oriented Reflection, the Intrinsic Religious Orientation, and Integrative Self-Knowledge and lower on Intellect-Oriented Reflection, Quest, Openness to Experience, and Need for Cognition.

Finally, administration of the Integrative Self-Knowledge Scale made it possible to broaden the analysis of "openness" to include a variable deemed to be compatible with both Faith and Intellect-Oriented Reflection. This scale, therefore, should correlate positively with both religious reflection factors and with the Intrinsic Religious Orientation. As a presumed measure of a kind of psychological openness, Integrative Self-Knowledge should also correlate positively with Openness to Experience and Need for Cognition, but perhaps not with Quest given its questionable relevance to the Muslim context. Finally, Faith-Oriented Reflection should interact with the Intrinsic Religious Orientation to predict even higher levels of Integrative Self-Knowledge.

Method

Participants

Participants included a total of 337 students from the University of Tehran and the Hozeh Islamic Seminary in Qom. The Tehran sample included 184 males, 60 females, and 11 individuals who failed to indicate their sex. All 82 Qom students were males. Average age was 21.5 ($SD = 2.4$) in Tehran and 22.5 ($SD = 4.9$) in Qom. This one-year difference in age was statistically significant, $t(287) = 2.31$, $p < 0.05$. All involvement in the project was voluntary, anonymous, and in full conformity with institutional ethical guidelines for conducting research.

Measures

Except for the Islamic Religious Reflection measure, all instruments had been translated into Persian in previous projects, which established their validity for use in Iran (e.g., Ghorbani et al., 2009). In preparation for this study, one individual translated Islamic Religious Reflection items into Persian. Then, another back-translated these Persian statements into English. Differences between original and back-translated items were minor and easily resolved through revisions in the Persian translations.

Responding to Religious Orientation and Quest items occurred along a 1-to-4 Likert scale with all other instruments using 1-to-5 options. Measures appeared in a single-questionnaire booklet that presented scales in the following sequence: Integrative Self-Knowledge, 12 items (Ghorbani et al., 2008); Islamic Religious Reflection, 14 items (Dover et al., 2007), Openness to Experience, 20 Items (Goldberg, 1999): Need for Cognition, 18 items (Cacioppo et al., 1996); the Intrinsic and the Extrinsic Personal and

Social Religious Orientations, 9 and 3 items each, respectively (Allport & Ross, 1967); and Quest, 12 items (Batson & Schoenrade, 1991a, 1991b).

Procedure

In groups of varying size, participants responded to the questionnaire booklet in a classroom setting. The scoring of all instruments involved computation of the average response per item, with higher values indicating higher levels of the assessed characteristic. *Mplus 6* CFA software determined if the original Dover et al. (2007) factors would adequately describe responding on the full Islamic Religious Reflection Scale. CFA procedures then assessed the fit of the smaller number of items included within the Faith and Intellect-Oriented Reflection factors. Correlations among all measures were explored next, followed by procedures designed to test hypotheses about moderation (Baron & Kenny, 1986). In these procedures, standardisation of the predictor variables reduced the problem of multicollinearity, with cross-products calculated using the standardised values. Multiple regression results focussed on unstandardised regression coefficients given the preliminary standardisation of the predictor variables (Cohen, Cohen, West, &Aiken, 2003). A multivariate analysis of variance (MANOVA) assessed possible differences between the Tehran and Qom samples, with these results clarified as necessary given background differences between the two groups.

Results

All CFA procedures employed full information maximum likelihood estimation with robust standard errors (Muthén & Muthén, 1998–2010). Analysed first was the four-factor structure identified by Dover et al. (2007) to describe responding on the full scale. Evidence of fit appeared if two of three fit indices displayed acceptable values involving a root mean square error of approximation (RMSEA) of .06 or less, a standardised root mean square residual (SRMR) of .08 or less, and a comparative fit index (CFI) of .90 or greater (Hu & Bentler, 1999). The four-factor structure did not display acceptable fit, RMSEA = 0.068, SRMR = 0.059, CFI = 0.857. Subsequent analyses therefore focussed on the full scale rather than on these four factors.

Procedures next examined whether the Faith and Intellect-Oriented Reflection factors would describe responding on the more limited number of items that defined these two measures. CFA results revealed acceptable fit, RMSEA = 0.060, SRMR = 0.057, CFI = 0.906. This outcome served as warrant for examining Faith and Intellect-Oriented Reflection in Iran.

Table 1 presents the correlations among all measures. Most noteworthy was the discovery that Faith and Intellect-Oriented Reflection correlated positively with each other, rather than negatively as previously found in the United States. As with the full scale, both Islamic Religious Reflection factors predicted higher levels of the Intrinsic and Extrinsic Personal Religious Orientations, Integrative Self-Knowledge, Openness to Experience, and Need for Cognition. The full scale and Faith-Oriented Reflection also exhibited a direct connection with the Extrinsic Social Orientation, and this factor correlated negatively with Quest as well. Positive associations appeared among the Intrinsic and the two Extrinsic Religious Orientations. The Intrinsic Orientation correlated positively with Integrative Self-Knowledge, Openness to Experience, and Need for Cognition. A direct relationship also appeared for the Extrinsic Personal Orientation with

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Table 1. Correlations among Islamic religious reflection, religious orientation, and openness measures.

Variables	α	M	SD	1	2	3	4	5	6	7	8	9	10
1. Islamic reflection	0.80	3.85	0.66	–	0.92***	0.77***	0.62***	0.51***	0.20***	−0.06	0.28***	0.28***	0.30***
2. Faith-oriented factor	0.76	3.80	0.81		–	0.51***	0.65***	0.51***	0.23***	−0.19**	0.27***	0.22***	0.25***
3. Intellect-oriented factor	0.61	3.97	0.73			–	0.38***	0.38***	0.10	0.10	0.17**	0.28***	0.26***
4. Intrinsic orientation	0.82	3.06	0.58				–	0.48***	0.37***	−0.06	0.19***	0.26***	0.27***
5. Extrinsic personal	0.65	2.96	0.77					–	0.29***	−0.05	0.04	0.19***	0.14*
6. Extrinsic social	0.57	2.35	0.72						–	−0.09	−0.13*	−0.14**	−0.15**
7. Quest	0.61	2.62	0.44							–	0.01	0.19***	0.14*
8. Integrative self-knowledge	0.76	3.59	0.65								–	0.38***	0.47***
9. Openness to experience	0.83	3.46	0.58									–	0.61***
10. Need for cognition	0.80	3.48	0.58										–

Note: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

Table 2. Multiple regression analyses using intrinsic (INT), faith-oriented (FO), and intellect-oriented (IO) variables to predict measures of openness.

	Step 1				Step 2		
		Regression coefficient				Regression coefficient	
Variable	R^2	INT	FO	IO	ΔR^2	INT × FO	INT × IO
Quest	0.09***	0.08	−0.37***	0.26***	0.01	−0.05	−0.09
Integrative self-knowledge	0.07***	0.02	0.23**	0.04	0.02*	0.13**	−0.02
Openness to experience	0.11***	0.19**	−0.02	0.22***	0.02†	0.08	−0.11*
Need for cognition	0.10***	0.10*	0.03	0.10**	0.07***	0.09**	−0.14***

Note: $^{\dagger}p < 0.10$; $*p < 0.05$; $**p < 0.01$; $***p < 0.001$.

Openness to Experience and Need for Cognition, but Extrinsic Social scores predicted lower levels of Integrative Self-Knowledge, Openness to Experience, and Need for Cognition. Quest correlated directly with Openness to Experience and Need for Cognition.

Again, multiple regressions procedures examined whether the Intrinsic Orientation would interact with and thus moderate the effects of the two Islamic Religious Reflection factors (Baron & Kenny, 1986). These results appear in Table 2 with significant interactions depicted in Figure 1. With regard to religious openness, Faith-Oriented Reflection predicted lower and Intellect-Oriented Reflection predicted higher Quest. No moderating effects appeared.

Faith-Oriented Reflection displayed a direct relationship with the openness to self-experience measured by the Integrative Self-Knowledge Scale. Figure 1 demonstrates that the Intrinsic Orientation tended to correlate positively with Integrative Self-Knowledge when Faith-Oriented Reflection was high, but negatively when it was low.

With regard to cognitive openness, the Intrinsic Religious Orientation and Intellect-Oriented Reflection both served as significant positive predictors of Openness to Experience and the Need for Cognition. As Figure 1 makes clear, the Intrinsic Orientation tended to correlate more positively with Openness to Experience at lower levels of Intellect-Oriented Reflection. As Intellect-Oriented Reflection became stronger, this relationship tended to disappear. Intrinsic Religious commitments also correlated more positively with Need for Cognition as Faith-Oriented Reflection became stronger. In contrast, the Intrinsic Orientation correlated positively with Need for Cognition at lower levels of Intellect-Oriented Reflection, but negatively at higher levels.

MANOVA comparison of the Tehran and Qom students revealed a significant overall effect (Wilks' Lambda = 0.901, $F[9, 317] = 3.88$, $p < 0.001$). Table 3 demonstrates that Qom students scored higher on Faith-Oriented Reflection, the Intrinsic Religious Orientation, and Integrative Self-Knowledge. Tehran students displayed a higher mean on Intellect-Oriented Reflection.

More than educational missions differentiated these two institutions. The Qom sample included no females, and being female predicted a lower Extrinsic Social Orientation (-0.16, $p < 0.01$) and higher levels of Intellect-Oriented Reflection (0.11, $p < 0.05$), the Extrinsic Personal Orientation (0.12, $p < 0.05$), and Need for Cognition (0.15, $p < 0.01$). A multivariate analysis of covariance (MANCOVA) reexamination of these four measures controlling for sex demonstrated that the Tehran and Qom groups no longer differed on Intellect-Oriented Reflection, $F(1, 321) = 2.48$, $p = 0.12$. Previously non-significant

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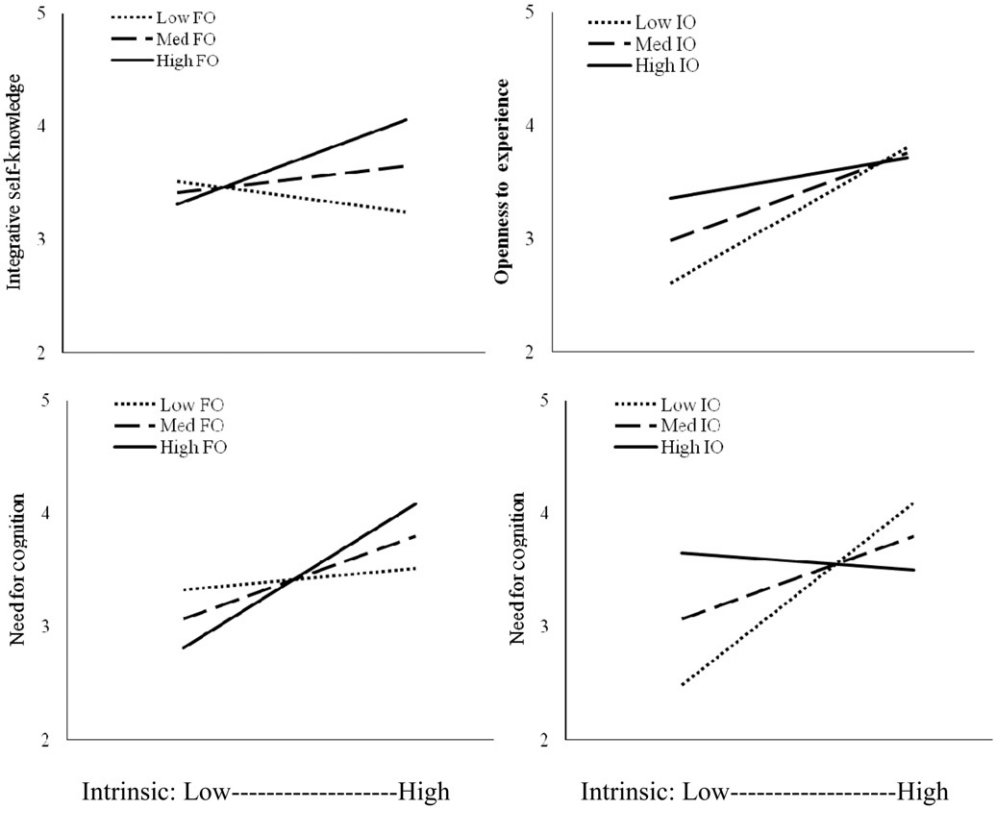

Figure 1. Significant interactions of the intrinsic religious orientation with faith-oriented (FO) and intellect-oriented (IO) religious reflection in predicting measures of openness. The three lines of each graph represent the moderator variable at low (1 *SD* below its mean), medium (mean), and high (1 *SD* above its mean) levels.

Table 3. Comparisons of Tehran and Qom students on Islamic religious reflection, religious orientation, and openness measures.

	Tehran		Qom		
Variable	*M*	*SD*	*M*	*SD*	*F*
Islamic reflection	3.83	0.67	3.90	0.63	0.72
Faith-oriented reflection	3.74	0.84	3.96	0.70	4.57*
Intellect-oriented reflection	4.02	0.71	3.81	0.80	4.84*
Intrinsic orientation	3.01	0.60	3.20	0.53	5.94*
Extrinsic personal	3.00	0.76	2.82	0.84	3.03
Extrinsic social	2.33	0.74	2.34	0.63	0.01
Quest	2.63	0.43	2.59	0.44	0.62
Integrative self-knowledge	3.55	0.63	3.75	0.66	5.44*
Openness to experience	3.46	0.58	3.46	0.58	0.00
Need for cognition	3.47	0.58	3.50	0.60	0.11

Note: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

differences on Need for Cognition and on the two Extrinsic Religious Orientations remained non-significant.

Qom students also were slightly older, and age correlated positively with the Intrinsic Religious Orientation (0.14, $p < 0.05$) and negatively with Quest (-0.12, $p < 0.05$). Controlling for age in an additional MANCOVA had no meaningful effect on the results observed for these two variables. In other words, Qom students continued to be higher on the Intrinsic Orientation, and the two groups once again did not differ on Quest.

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Discussion

In clear contrast with American Christians (Watson et al., 2011), Iranian Muslims did not display a polarisation of religious reflection. CFA procedures documented the existence of Faith and Intellect-Oriented forms of reflection in Iran, but these two factors exhibited a positive rather than a negative relationship with each other. Both measures also correlated positively with Integrative Self-Knowledge, Openness to Experience, and Need for Cognition, which in turn co-varied directly, as would be expected of presumed indices of psychological openness. Findings that Faith-Oriented Reflection paralleled Intellect-Oriented Reflection in correlating positively rather than negatively with cognitive openness offered a further contrast with previous American data. Both factors also predicted a stronger Intrinsic Religious Orientation, suggesting that Muslim commitments encouraged a full embrace of the epistemological potentials of religious reflection. In the United States, Intellect-Oriented Reflection had correlated negatively with the Intrinsic Orientation (Watson et al., 2011). Intrinsic Scale linkages with greater Integrative Self-Knowledge, Openness to Experience, and Need for Cognition further supported the claim that Muslim faith encourages psychological openness (Dover et al., 2007).

Contrasts between Qom and Tehran also argued against polarisation. Qom students did not score lower on Openness to Experience or Need for Cognition. The higher Tehran average on Intellect-Oriented Reflection appeared to reflect the fact that women scored higher on this measure and that no women could study in Qom to become a mullah, which is a culturally defined male role. Why this sex difference occurred remains unclear. Perhaps Iranian women limited in their religious career options direct their energies more strongly towards intellectual forms of religious reflection. Within the context of other comparisons, higher Qom scores on Faith-Oriented Reflection and on the Intrinsic Religious Orientation seemed fully explicable in terms of career interests. Future mullahs presumably just would display higher levels of these religious characteristics. Similarly, the higher Qom average on Integrative Self-Knowledge seemed consistent with arguments that self-knowledge is a central Islamic ideal (Haque, 2004; Shimamoto, 2008).

Dover et al. (2007) questioned whether the Quest Scale could be useful in understanding Muslim faith. In the present study, Quest did display positive relationships with Openness to Experience and Need for Cognition. Multiple regression analysis also revealed that Quest predicted greater Intellect-Oriented Reflection, but only when procedures simultaneously accounted for a negative association of Quest with Faith-Oriented Reflection. In other results, Quest correlated negatively with Faith-Oriented Reflection, and failed to display any significant connections with other religious variables or with the Islamic ideal of self-knowledge. Arguments underlying development of the Quest Scale assume that the Intrinsic Religious Orientation is a cognitively rigid form of faith that is incompatible with religious openness (Batson et al., 1993). Qom students scored higher on the Intrinsic Religious Orientation, and so presumably should have been

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lower on Quest as well. This did not happen. In addition, Quest correlated negatively with age. A similar outcome in the United States supported concerns that Quest may fail to measure a fully mature form of faith (Watson, Howard, Hood, & Morris, 1988). In short, these results suggested that the relevance of Quest to Muslim commitments was limited and subtle (also see, Ghorbani, Watson, & Mirhasani, 2007b).

Multiple regressions usefully clarified how Muslim commitments and religious reflection might combine to promote psychological openness. In these procedures, Faith-Oriented Reflection but not the Intrinsic Religious Orientation nor Intellect-Oriented Reflection explained variance in Integrative Self-Knowledge. Faith-Oriented Reflection also moderated relationships of the Intrinsic Religious Orientation with Integrative Self-Knowledge. In particular, higher levels of Faith-Oriented Reflection enhanced the ability of the Intrinsic Scale to correlate positively with self-knowledge. This result confirmed the hypothesis that sincere religious commitments informed by sophisticated religious thought should translate into a stronger embrace of the self-knowledge that Islamic faith believes should be embraced (Haque, 2004; Shimamoto, 2008). Interestingly, the Intrinsic Religious Orientation tended to correlate negatively with Integrative Self-Knowledge when Faith-Oriented Reflection was low. Moderation results for Integrative Self-Knowledge, therefore, documented the importance of a thoughtful Islamic faith in actualising the full potentials and avoiding the possible liabilities of Muslim commitments.

In multiple regression procedures, the Intrinsic Scale and Intellect but not Faith-Oriented Reflection explained variance in cognitive openness. These data, therefore, offered additional demonstrations that Muslim religious commitments and reflection were not polarised. This was so because the Intrinsic Orientation and Intellect-Oriented Reflection apparently worked in unity to predict higher levels of the cognitive openness measured by Openness to Experience and Need for Cognition.

Moderation effects for the two cognitive openness scales further argued against polarisation. The Intrinsic Religious Orientation became an increasingly important predictor of greater Openness to Experience as Intellect-Oriented Reflection declined. Muslim commitments and intellect, therefore, again proved to be compatible because higher levels of the Intrinsic Orientation supplemented the full range of Intellect-Oriented Reflection scores in predicting greater Openness to Experience. Faith-Oriented Reflection also enhanced the ability of the Intrinsic Orientation to correlate positively with Need for Cognition. The implication, therefore, was that sincere Muslim commitments informed by a greater Faith-Oriented Reflection encouraged an embrace of the Need for Cognition that Islamic faith presumably encourages as necessary for objective and logical thinking (Dover et al., 2007).

Intellect-Oriented Reflection and the Intrinsic Religious Orientation also interacted to explain variance in Need for Cognition. Here, the Intrinsic Orientation correlated positively with Need for Cognition when Intellect-Oriented Reflection was low and negatively when it was high. In itself, this pattern did suggest a possible polarisation of Intellect-Oriented Reflection and Need for Cognition on the one hand and sincere Muslim commitments on the other. Still, the demonstration that the Intrinsic Orientation and Intellect-Oriented Reflection both independently predicted higher Need for Cognition argued against such a simple interpretation. An alternative possibility may appear in observation noted above that the Intrinsic Orientation displayed a stronger positive correlation with Need of Cognition at higher levels of Faith-Oriented Reflection. Taken together, these moderation results perhaps revealed that the Intrinsic Orientation encouraged a more exclusively Faith-Oriented rather than an Intellect-Oriented

association with the Need for Cognition. In other words, Muslim commitments did not inhibit the Need for Cognition, but rather focussed its expression in Faith rather than in Intellect-Oriented Reflection.

As in previous Muslim studies (Ghorbani et al., 2007a), the Extrinsic Personal Orientation appeared to be more adjusted and the Extrinsic Social Orientation more maladjusted. Extrinsic Personal scores correlated positively with both Islamic Religious Reflection factors, Openness to Experience, and Need for Cognition. The Extrinsic Social Orientation correlated positively with Faith but not Intellect-Oriented Reflection and also displayed negative linkages with Integrative Self-Knowledge, Openness to Experience, and Need for Cognition. Such Extrinsic Social data cannot mean, however, that all socially relevant Muslim motivations have primarily negative implications. A recently developed Extrinsic Cultural Religious Orientation Scale records the desire of individuals to be religious in order to promote societal well-being, and this measure predicts psychological adjustment in Iran (Ghorbani, Watson, Zarehi, & Shamohammadi, 2010). Future research will need to determine if the Extrinsic Cultural, like the Intrinsic and Extrinsic Personal Orientations can predict higher levels of both forms of Islamic Religious Reflection.

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Limitations

This study demonstrated that polarisation is not a necessary feature of Islamic Religious Reflection, but its data cannot prove that polarisation never occurs. Empirical research into the psychological implications of Muslim faith is in its early stages (Abu-Raiya & Pargament, 2011). Findings that Islamic commitments are compatible with empathy point towards another form of psychosocial openness (Khan, Watson, & Habib, 2005), but definitive conclusions must await additional investigations that examine a much broader array of relevant cognitive and other psychological constructs.

University age students served as the research participants in order to parallel a previous American study (Watson et al., 2011). However, university and seminary students are not representative of the Iranian population as a whole, nor are all Iranian universities and seminaries necessarily the same. Future studies will need to explore a broader range of Iranian samples.

This project focussed on the contrast between university and seminary environments as important in exploring the potential cultural impact on openness of the presumably more profound Muslim commitments of seminary students. The university unlike the seminary sample included women, and these students were also slightly younger. Important new insights may result from additional studies that compare university and seminary samples of men only who are of the same age.

Finally, the majority of Iranians are Shiite Muslims. It is unclear whether Islamic Religious Reflection would display the same characteristics in Sunni Muslim societies or in societies in which Islam represents a minority form of religious commitment.

Concluding considerations

In summary, this investigation offered clear support for the claim that Muslim thought can display religious and cognitive complexity rather than rigidity and fanaticism. A previous Iranian study examined simultaneous beliefs in the existence of a transcendent reality and in a literal interpretation of the Qur'an, a pattern theoretically defining a fundamentalist form of faith (Ghorbani et al., 2009). This empirical marker of "fundamentalism"

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predicted greater cognitive openness across different Iranian samples. An opposite relationship would presumably be the expectation in the West. Research associated with an Ideological Surround Model (ISM) of the psychology of religion, nevertheless, suggests that even in the West, ideological factors (Watson, 1993, 2011) can influence the empirical depiction of religious constructs like fundamentalism (Watson et al., 2003, 2011).

So more particularly, why would Faith and Intellect-Oriented Reflection be polarised in American Christians (Watson et al., 2011), but compatible in Iranian Muslims? The ISM essentially argues the psychology of all religions necessarily reflects the somewhat non-empirical, normative, and sociological assumptions (MacIntyre, 1978) of faith communities (and of the psychologists who study them). The further postmodern insight is that all religious (and psychological) knowledge operates from a very particular perspective that can never be fully objective (Nietzsche, 1967), but must instead reflect the epistemological influence of a dialectic that necessarily exists between the power of a perspective and the "truth" that it attempts to represent (e.g., Foucault, 1980).

Iran is a theocratic society in which cultural power arrangements maintain a formal commitment to harmony in the development of Islamic faith and intellect. In Iran, therefore, Faith and Intellect-Oriented Religious Reflection correlate positively. "Conservative" religious commitments operate as a more peripheral perspective in the West where an increasingly dominating power of secularisation attempts to divorce the faith of tradition from the intellect of a wider culture. Religious knowledge in such a context may attempt to defend itself through rejection of a threatening intellect. In America, therefore, Faith and Intellect-Oriented Religious Reflection correlate negatively. ISM procedures can account for the power of the wider culture as reflected within the ideological surround of the Western psychological community and can demonstrate that Faith and Intellect-Oriented Religious Reflection correlate positively if research procedures maintain sensitivity to the ideological positioning of conservative faith in the West (Watson et al., 2003, 2011).

One final set of ISM assumptions may deserve concluding emphasis. Underlying the ISM is the further argument that religions, secular culture, and other forms of social life often operate according to incommensurable rationalities (Watson, 2011). "Incommensurable" does not mean "incompatible," only that different communities fail to share the same ultimate standards of evaluation (MacIntyre, 1988, 1990). In monotheistic religions, for example, the ultimate standard is associated with tradition-specific visions of God. In the secular West, the ultimate standard is increasingly associated with contemporary readings of the dynamics of "nature." Particular beliefs calibrated to such different standards will sometimes be compatible, incompatible, or irrelevant to each other.

Among other things, this means that the central claims of religious and secular rationalities cannot be adjudicated along a common, noncontroversial dimension of evaluation. "Boundaries" of "non-rationality" will, therefore, separate religious communities from secular and other religious communities. Efforts to communicate across those boundaries will struggle to find compatible beliefs that are nevertheless related to different ultimate standards and will be embedded within a vast array of other incompatible and irrelevant beliefs. Inter-communal interactions across boundaries, consequently, cannot be fully rational and will often be the loci of confusion and conflict. The ISM argues that one important task of the social sciences is to encourage development of dialogical rationalities that can avoid the scapegoating and stereotyping of any one community by any other (Ghorbani et al., 2011; Watson, 2004, 2011) and can promote the potential harmony of greater understanding across communities (Watson, 2006). At a very particular level,

therefore, the present demonstration of a positive correlation between Faith and Intellect-Oriented Islamic Religious Reflection in Iran serves as a caution against the stereotyping and scapegoating of Muslims as cognitively rigid and irrational (see e.g., Girard, 1987) and hopefully encourages a further social scientific pursuit of dialogue across ideological surrounds.

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