

POST-CRITICAL BELIEFS IN IRAN:
PREDICTING RELIGIOUS AND PSYCHOLOGICAL
FUNCTIONING

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ABSTRACT

In three Iranian samples, the brief Post-Critical Beliefs Scale was administered along with an array of psychological and religious measures. Factor analysis identified the expected *transcendence* and *symbolism* dimensions of post-critical beliefs. These two factors correlated negatively with each other, and transcendence tended to predict greater and symbolism lower levels of religiousness. Transcendence also had more positive and symbolism more negative mental health implications. Significant interactions between these factors in explaining variance in other variables supported the validity of Wulff's (1997) typology of religious attitudes in Iran. Unexpected interactions in predicting cognitive openness were especially noteworthy in demonstrating that western understandings of the psychology of religion may not always generalize to the Muslim context.

Keywords: Post-critical Beliefs, religious functioning, psychological adjustment, Iran.

Understanding the psychological influences of faith commitments remains a perennial concern in the social scientific study of religion (e.g., Hood, Spilka, Hunsberger, & Gorsuch, 1996; Wulff, 1997). While this literature is massive, most relevant investigations have operated from western intellectual perspectives and have examined predominately North American Christian samples (e.g., Hood et al., 1996). An increasingly global and interconnected cultural environment clearly demands the development of a more truly international psychology of religion.

Opposite strategies describe the most obvious conceptual options for pursuing this goal of international expansion. At one extreme, researchers might assume that western perspectives can be applied non-problematically to the analysis of other religions. Such an ethnic approach would have clear advantages. Studies, for example, could

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benefit from the sophisticated understandings of religion that are available in the western research literature. The identification of universals in the psychology of religion would also be an attractive empirical possibility. Disadvantages would nevertheless be apparent as well. Sole reliance upon western frameworks could be associated with inadequate or incomplete perspectives that misrepresent other forms of faith. They could also be ill-suited to capture whatever unique characteristics may differentiate one religion from others. Rather than creating a truly international psychology of religion, the result instead could be the emerging domination of a centripetal, social scientific paradigm in which different religions essentially disappeared.

At the other extreme, researchers interested in a particular religion might begin with a formal rejection of all western and other outside influences. Here, the demand would be to construct a psychology of religion based solely upon frameworks that are internal to the faith being studied. Such an approach would eliminate misrepresentations based upon outside forms of understanding and would more likely focus on those unique characteristics that define a specific religion. But disadvantages could also appear. The opportunity for identifying universals would be missed. Misunderstandings based upon limited perspectives within, rather than outside of a faith would remain a distinct possibility. Perhaps most importantly, however, radical rejection of other points of view would seem to presuppose a profound incommensurability between a particular religion and all other perspectives. Radical incommensurability would then imply that even simple understandings across belief systems would be impossible. Rather than creating a truly international psychology of religion, the result instead could be the dissolution of a potentially coherent research endeavor into a centrifugal atomization of incommensurable points of view.

Dialogical Model

Both extreme options have advantages and, therefore, should be pursued. Their disadvantages, nevertheless, point toward the need to add something else. One attempt to develop this needed addition has concentrated on the social scientific analysis of Muslim religious commitments and has involved the articulation of a dialogical model of research (Ghorbani, Watson, Krauss, Bing, & Davison, 2004; Ghorbani, Watson, & Khan, 2007). The central assumption of this model is that formal efforts to bring Muslim faith into dialogue with western research

perspectives can create a dialectic that usefully clarifies both Muslim and western understandings of faith.

Initial illustration of the potential of this model focused on the western religious orientation literature. As originally conceptualized by Allport and Ross (1967), two motivations underlie all religious belief. An intrinsic orientation theoretically represents a sincere and adaptive form of commitment in which a believer makes faith the central motivating force in his or her life. An extrinsic orientation supposedly reflects, instead, a self-centered and sometimes maladaptive use of religion as a means to other ends. While studies have generally confirmed this theoretical description (e.g., Donahue, 1985), the Intrinsic Religious Orientation Scale, nevertheless, has been criticized for at least partially measuring a cognitively rigid and socially desirable effort to maintain the mere appearance of being religious (e.g., Batson, Schoenrade, & Ventis, 1993). In response to such concerns, a Quest Scale was created to measure what was deemed to be a missing element of religious motivation. Quest records "the degree to which an individual's religion involves an open-ended, responsive dialogue with existential questions raised by the contradictions and tragedies of life" (Batson et al., 1993, p. 169).

In efforts to explore the potential of the dialogical model, researchers administered Intrinsic, Extrinsic, and Quest Religious Orientation measures to both Iranian and Pakistani Muslim samples (Ghorbani, Watson, & Khan, 2007). These investigations yielded five most noteworthy kinds of observations. First, western measures produced meaningful patterns of results when used with Muslim samples. Significant relationships were observed in both countries, with correlations for the Intrinsic Religious Orientation Scale tending to be more robust than those observed for the Extrinsic and Quest orientations (e.g., Ghorbani, Watson, Ghramaleki, Morris, & Hood, 2002; Ghorbani, Watson, & Mirhasani, 2007; Watson, Ghorbani, Davison, Bing, Hood, & Ghramaleki, 2002). These measures, therefore, had at least some potential for initiating a dialogue between perspectives.

Second, these data supplied an empirical warrant for exploring conceptually noteworthy parallels between Muslim and non-Muslim understandings of religious faith. The Iranian philosopher Soroush (2003), for example, has described experiential, instrumental, and Gnostic types of Islamic belief that suggest a family resemblance with the motivations recorded by the Intrinsic, Extrinsic, and Quest Religious Orientation Scales, respectively (Ghorbani, Watson, & Khan, 2007).

The ability of religious orientation measures to yield meaningful data within a Muslim context, therefore, seemed useful in identifying specific conceptual frameworks that may have a potential for deepening the dialogue between perspectives.

Third, western measures seemed to have a least some promise in clarifying possible ambiguities within Muslim conceptual frameworks. Commentators, for instance, sometimes emphasize that Islam makes no distinction between the spiritual and temporal dimensions of life (Moughrabi, 1995). The easiest illustration of this view, at least among conservative Muslims, involves commitments to Shari'ah law in which the effort is to bring all aspects of temporal life under control of Islamic beliefs (Armstrong, 2000), including even psychological research (Murken & Shah, 2002). Differentiation between religious orientations might consequently make little sense in Muslim society because all extrinsic aspects of temporal life actually emanate from an intrinsic Islamic spirituality. Indeed, Allport and Ross (1967) noted that even some Christians displayed high levels of both motivations, perhaps suggesting an integration of the temporal and the spiritual. They argued instead, however, that this pattern revealed an indiscriminately pro-religious type that lacked the cognitive sophistication and psychosocial advantages of a more discriminative intrinsic religious type that scored high only on the *Intrinsic Religious Orientation Scale*. Subsequent research largely confirmed this suggestion in North American samples (Donahue, 1985), and a similar pattern appeared in Iran as well (Ghorbani & Watson, 2006a). Empirically based dialogue, therefore, suggested a possible need to differentiate between the spiritual and the temporal in ways that might be consistent with Muslim articulations of faith (e.g., Ghorbani, Watson, Ghramaleki, Morris, & Hood, 2002).

Fourth, examination of Muslim samples also presented opportunities for identifying possible inadequacies in western understandings of religion. Factor analytic procedures have identified separate personal and social dimensions within the *Extrinsic Religious Orientation Scale* (Kirkpatrick, 1989). Efforts to express these factors in the Urdu spoken by Pakistanis led some translators to complain that *extrinsic-social* statements were offensive to their faith (Khan & Watson, 2004; Khan, Watson, & Habib, 2005). When these translations were administered to Pakistani research participants, mean responding per item on this measure in fact proved to be lower than on the intrinsic religious orientation and extrinsic-personal measures. A reexamination of comparable data from Iran and the United States confirmed the same basic pattern in those

two societies as well (Ghorbani, Watson, & Mirhasani, 2007; Watson et al., 2002). The suggestion that the extrinsic-social factor might be “offensive” to faith, therefore, seemed to be a possible misunderstanding in the western literature that was made apparent by examining Muslim samples.

Fifth and finally, use of the dialogical model was also associated with some success in identifying possible unique features of Muslim commitments. In Pakistan in particular, average responding on the extrinsic-personal factor was significantly higher than on the Intrinsic Religious Orientation Scale and on the extrinsic-social factor. The extrinsic-personal factor also displayed at least some positive correlations with psychological adjustment (Khan & Watson, 2004; Khan et al., 2005). Similar, though less consistent patterns appeared in Iran, but not in the United States (Ghorbani Watson, & Mirhasani, 2007; Watson et al., 2002). The implication, therefore, was that the extrinsic-personal motivation might be especially important in understanding the mental health influences of Muslim religion in Pakistan, and perhaps in Iran as well.

In summary, the dialogical model of research appears to have numerous advantages in efforts to promote a more comprehensive international psychology of religion. The general purpose of the present project was to use this model to further develop a Muslim psychology of religion. Accomplishment of that broader goal involved a more specific examination of Iranian Muslim responding on the brief version of the Post-Critical Beliefs Scale (Duriez, Soenens, & Hutsebaut, 2005).

Post-Critical Beliefs

The Post-Critical Beliefs Scale was developed to operationalize Wulff's (1997) two-dimensional schema for conceptualizing the psychology of religion (e.g., Hutsebaut, 1996). The central assumption of this schema is that all perspectives on religion can be coordinated within a space defined by metaphysical and interpretative dimensions of belief. Metaphysically, individuals differ in the degree to which they include or exclude the possibility of transcendence. Interpretatively, they vary along a continuum that emphasizes literal versus symbolic understandings of faith. Interactions between these dimensions theoretically describe four basic religious attitudes. Some individuals, for example, maintain transcendent metaphysical assumptions while embracing literal understandings of religious texts and practices, whereas others adopt a more

symbolic interpretative stance. Those who reject transcendence may also be either literal or symbolic in their readings of religious life.

More specifically, Wulff (1997) then uses this two-dimensional analysis to name and define four different types of religious attitudes. *Literal affirmation* involves high scores on transcendence and low scores on symbolism. “Fundamentalists” serve as the prototypical example, but elements of this approach may appear even in those who are not consistently conservative in their ideological commitments. Relative to mental health considerations, Wulff suggests that this form of religious commitment is empirically problematic because it predicts racial prejudice, poor cognitive development, and an array of other psychological and social liabilities.

Defined by low scores on both dimensions, *literal disaffirmation* similarly demands that religious language and rituals be interpreted exactly in the terms in which they are expressed, but for the purpose of dismissing rather than embracing faith. This attitude might be described as a fundamentalism of reason in which the effort is to dissolve religion in a deconstructive skepticism toward all forms of so-called revelation. While less dogmatic and more intellectual than literal affirmation, this attitude may, nevertheless, have its own forms of cognitive rigidity and may emerge out of unhappy life experiences of personal loss.

With *reductive interpretation*, religious attitudes are also conditioned by a rejection of transcendence, but with a more constructive interpretative intent. More negatively, the goal of this attitude may be to use symbolic forms of interpretation to demystify religion in order to uncover the hidden secular meanings that underlie and support religion. Less negatively, the goal might be to diagnose the pathologies of religion in an effort to uncover a more mature form of faith, albeit without transcendent assumptions. High scores on the Quest Scale may reflect such an attitude, and individuals maintaining this stance “may be described as complex, socially sensitive and insightful, relatively unprejudiced, original, but also anxious” (Wulff, p. 639).

Finally, *restorative interpretation* promotes symbolic interpretation in the service of transcendent metaphysical assumptions. Here, the hope is to revivify faith so that it can point toward transcendent realities using conceptual frameworks that are meaningful within the current cultural context. This type of faith reflects a second naïveté and may be associated with such personality characteristics as metaphorical thinking, sincere religious commitment, mental health, and interpersonal adjustment.

Post-critical beliefs should, presumably, be especially interesting in Iran because this society is formally organized as an Islamic theocracy. At least some western stereotypes likely assume that dominant forms of Iranian faith reflect an attitude of literal affirmation that should be associated with poorer psychosocial adjustment and cognitive rigidity. Use of the Post-Critical Beliefs Scale in the present project made it possible to test that kind of assumption. More generally, this procedure also made it possible to assess the potential of Wulff's (1997) schema for promoting a useful dialogue between western and Muslim perspectives on the psychology of religion.

PRELIMINARY FACTOR ANALYSIS OF POST-CRITICAL BELIEFS SCALE

In the three samples of the present project, the brief version of the Post-Critical Beliefs Scale was administered along with a number of other theoretically relevant measures. A factor analysis of post-critical belief items in Iran was, therefore, a necessary preliminary step before examining correlations of transcendence and symbolism with other constructs. This necessity was accomplished by combining the 18 Post-Critical Beliefs Scale items from all three samples in a single factor analysis. Three foundational assumptions guided these statistical procedures.

In accord with the dialogical model, the first assumption was that western religious frameworks could and should not be arbitrarily imposed upon Muslim belief. A family resemblance, though not necessarily an identity, might exist between Iranian and western factor structures of the brief post-critical beliefs measure. This more general assumption had a very specific data analytic implication. Previous factor analysis of the 18 post-critical belief items employed an orthogonal procrustes rotation in which responding was fit to a target pattern deemed on empirical grounds to be compatible with Wulff's (1997) four-attitude theoretical framework (Duriez et al., 2005). Across three Belgium samples, the two factor structure was defined by a combination of positive and negative average loadings of all 18 items on each factor that could then be used to describe the four religious attitudes. In addition to complexities associated with procrustes rotations (Paunonen, 1997; ten-Berge, 2005), the more fundamental concern in the present project was to avoid an automatic assumption that Iranian Muslim responses to any particular post-critical belief item must fit exactly a previously

established western system of categorization. Research might eventually suggest such a possibility, but a first step in exploring the dialogical potential of post-critical beliefs seemed to require the use of a more theoretically neutral principal axis factoring procedure.

Second, Wulff's (1997) typology clearly required the identification of a two-factor structure. Factor analysis might point toward more factors, but the specific empirical concern was to determine whether post-critical beliefs items could be forced into two factors that could be plausibly defined as measures of transcendence and symbolism. Only with these two factors would it be possible to examine the four basic religious attitudes of Wulff's schema.

Finally, and perhaps most importantly, the identification of two factors using principal axis factoring made it possible to test empirically whether the Wulff (1997) typology had validity in Iran. Rather than presupposing the four types of religious attitudes through use of a procrustes rotation, it was possible to examine instead whether transcendence and symbolism interacted in predicting other variables. The observation of interactions would demonstrate that the additive combination of transcendence and symbolism was insufficient in fully accounting for variability in Iranian religious and psychological functioning. An interactive typology implies that at least some variance should be explained by high or low levels of responding on one factor combined with high or low levels on another. Wulff's notion that Quest might reflect reductive interpretation, for example, implies that high symbolism and low transcendence should be associated with especially high levels of this particular religious orientation.

METHOD

Participants

Undergraduates from the University of Tehran served as research participants. These 245 men, 316 women, and 5 individuals who failed indicate their gender volunteered to take part in one of three separate projects that examined relationships of post-critical beliefs with an array of psychological and other religious measures. Average ages of the three samples ranged from 20.9 years ($SD = 2.5$) to 21.8 years ($SD = 2.7$).

Procedure

The Post-Critical Beliefs Scale was administered along with other scales in a single questionnaire booklet. Participants responded to these booklets in groups of varying size ranging from approximately 10 to 40. Responding was completely anonymous, and procedures were in accord with standard institutional rules governing ethical research practices.

Translation of all measures was accomplished in formal procedures used in preparation for the present or previous Iranian projects. Before the present project, for example, each English expression of a post-critical beliefs item was translated into Persian. Care was taken to ensure that nuances of meaning were captured in the translation. When necessary, religious beliefs expressed in terms of specific Christian assumptions were changed to match Islamic circumstances. For instance, in the statement, "Even though the Bible was written a long time ago, it retains a basic message," the word "Qur'ān" replaced "Bible."

Persian translations were back-translated into English by an individual not involved in the original translation process. Noteworthy discrepancies between original and back-translated English items were rare and easily resolved through further discussion. As in previous Iranian studies, any statement that displayed a negative item-to-total correlation during analysis of the internal reliability of a scale was eliminated. This procedure maximized internal consistency and helped guarantee the psychometric and linguistic coherence of a translated measure. All measures were scored in terms of the average response per item.

Responses to the Post-Critical Belief items were made along a 5-point "strongly disagree" (0) to "strongly agree" (4) Likert scale. In this preliminary factor analytic study, Post-Critical Beliefs items from all three studies were combined in a single data file. Again, the 18 items of this measure were analyzed using a principal axis factoring procedure with an orthogonal rotation, and the goal was to force these data into a two-factor structure that could be meaningfully described as measures of transcendence and symbolism.

RESULTS AND DISCUSSION

When forced into a two dimensional structure, two items from the Post-Critical Beliefs Scale failed to display loadings of .30 or greater on either factor. One stated, "The Qur'ān is a rough guide in the search

for God, and not a historical account;” whereas the other said, “Ultimately, there is only one correct answer to each religious question.” Six statements displayed maximal positive loadings on the first factor (see Table 1). Strongest loadings on this factor were observed for the claims that “even though the Qur’ān was written a long time ago, it retains a basic message” (.77) and that “even though this goes against modern rationality, Mary truly remained a virgin” (.68). This latter belief is a part of Islamic faith and is found, for example, in Sura 3 (Al Omran), Verse 47 and in Sura 19 (Mary), Verses 16 to 33 of the Qur’ān. The meaning of these six items suggested that the first dimension essentially measured beliefs in transcendence.

Ten statements exhibited maximal positive loadings on the second factor. Most strongly defining this dimension were statements that “God grows together with the history of humanity and therefore is changeable” (.59) and that “science has made a religious understanding of life superfluous” (.53). All but one of these items directly suggested that religious beliefs can change in their meanings and cannot be accepted at face value. In other words, this factor apparently identified symbolism as a way to interpret religious faith. The one possible exception to this suggestion was the assertion that “I think that Qur’ānic stories should be taken literally, as they are written.” The loading of this item on the second factor perhaps revealed an attempt to freeze religious meanings literally in order to more easily deconstruct them. In other words, this item framed within the context of other second factor beliefs seemed to reflect an attitude of reductive interpretation.

Each of these factors exhibited internal reliabilities that were acceptable for research purposes, with Cronbach’s α equal to .77 for transcendence and .72 for symbolism. Average responding per item was higher for transcendence ($M = 2.48$, $SD = .95$) than for symbolism ($M = 1.53$, $SD = .68$). This difference was statistically significant ($t [564] = 16.32$, $p < .01$). Correlation between these two measures was $-.40$ ($p < .01$).

In summary, an analysis that forced post-critical belief items into two factors identified dimensions that could be plausibly described as measures of Transcendence and Symbolism in Iran. As might be expected of individuals living in a theocracy, personal beliefs in Transcendence were stronger than and at least somewhat incompatible with tendencies to use Symbolism in the interpretation of religion.

Table 1. Factor Loadings for Post-Critical Beliefs Scale Items Loading on Transcendence (T) and Symbolism (S) Factors*

Statement	Factor	
	T	S
Transcendence: Eigenvalue = 4.42; % Variance = 21.77%; M = 2.48; SD = .95; α = .77		
Even though the <i>Qur'ān</i> was written a long time ago, it retains a basic message (7)	.77	-.16
Even though this goes against modern rationality, Mary truly remained a virgin (5)	.68	-.09
The <i>Qur'ān</i> holds a deeper truth which can only be revealed by personal reflection (1)	.63	.00
Despite the injustices caused by Islam, Mohammed's (peace be upon him) message remains valuable (16)	.62	-.13
God has been defined for once and for all and therefore is immutable (2)	.56	-.09
Only the major religious traditions guarantee admittance to God (8)	.33	-.03
Symbolism: Eigenvalue = 1.95; % Variance = 6.72%; M = 1.53; SD = .68; α = .72		
God grows together with the history of humanity and therefore is changeable (13)	-.36	.59
Science has made a religious understanding of life superfluous (12)	-.41	.53
The world of <i>Qur'ānic</i> stories is so far removed from us, that it has little relevance (11)	-.37	.48
In the end, faith is nothing more than a safety net for human fears (17)	-.25	.46
Faith turns out to be an illusion when one is confronted with the harshness of life. (3)	-.25	.42
I think that <i>Qur'ānic</i> stories should be taken literally, as they are written (15)	-.07	.40
Each statement about God is a result of the time in which it was made (6)	-.01	.38
The manner in which humans experience God will always be colored by society (9)	.21	.31
My ideology is only one possibility among so many others (14)	.10	.30
Faith is an expression of a weak personality (18)	-.50	.30

Note: *Numbers in parentheses represent the item number in the original brief Post-Critical Beliefs Scale.

STUDY 1

The first study sought to conduct a preliminary evaluation of the basic religious and mental health implications of post critical beliefs in Iran. Along with the transcendence and symbolism factors, research participants responded to the Intrinsic, Extrinsic, and Quest Religious Orientation Scales; to a measure of the Big 5 personality traits; and to scales operationalizing tendencies toward anxiety and depression. Big 5 measures record what is generally deemed to be a comprehensive assessment of personality, involving traits of extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience (John & Srivastava, 1999). Big 5 measures also have been widely used in the psychology of religion (e.g., Piedmont, 1999) and therefore seemed especially apropos for conducting a preliminary psychological appraisal of post-critical beliefs.

In addition to examining correlations among these measures, procedures made it possible to evaluate possible interactions between transcendence and symbolism in predicting all other constructs. Again, for example, Wulff (1997) suggests that Quest might be associated with the low transcendence and high symbolism of reductive interpretation.

METHOD

Participants

Research participants were 97 men and 85 women who were enrolled as undergraduates in the University of Tehran. Their average age of was 21.8 years ($SD = 2.7$).

Measures and Procedures

All instruments were presented in a single questionnaire booklet. In this and in the subsequent procedures, the Post Critical Beliefs Scale appeared close to the end of the booklet in order to standardize procedures and to minimize possible influences of transcendence and symbolism items on responding to other measures. In the first study, the Post Critical Beliefs Scale was preceded, in sequence, by Persian versions of the 50-item Goldberg (1999) Big 5 measures of extraversion (M response per item = 2.18, $SD = 0.56$, $\alpha = .71$) agreeableness ($M = 2.78$, $SD = 0.62$, $\alpha = .75$), conscientiousness ($M = 2.43$, $SD =$

0.68, $\alpha = .73$), emotional stability ($M = 2.03$, $SD = 0.75$, $\alpha = .79$), and openness to experience ($M = 2.57$, $SD = 0.61$, $\alpha = .71$); the Allport and Ross (1967) intrinsic ($M = 1.73$, $SD = 0.61$, $\alpha = .73$) and extrinsic ($M = 1.21$, $SD = 0.47$, $\alpha = .62$) Religious Orientation Scales; the Batson and Schoenrade (1991a, b) operationalization of Quest ($M = 1.44$, $SD = 0.56$, $\alpha = .73$), and the Zigmond and Snaith (1983) Hospital Anxiety ($M = 1.28$, $SD = 0.65$, $\alpha = .77$) and Depression ($M = 0.92$, $SD = 0.54$, $\alpha = .63$) Scales.

Responding to the Big 5 measures occurred along a 5-point “strongly disagree” (0) to “strongly agree” (4) Likert scale. A 0 to 3 response scale was used with the three religious orientation measures. Hospital Scales presented participants with various 0 to 3 response options designed to assess the frequency and severity of symptoms associated with anxiety and depression. Translation procedures and adaptation of these measures to the Iranian context were detailed in previous studies, which also documented the basic validity of the Persian versions of these religious orientation (e.g., Ghorbani et al., 2002; Watson et al., 2002; Ghorbani, Watson, & Mirhasani, 2007), Big 5 (e.g., Ghorbani & Watson, 2004a), and mental health (e.g., Ghorbani & Watson, 2006b) measures.

Again, questionnaires were administered in group settings of various sizes. Data analyses began with an examination of correlations among all variables. A series of multiple regressions then used the two post-Critical beliefs to predict all other religious and psychological measures. In an attempt to discover possible interactions between the two post-critical beliefs, these procedures followed the four-step process described by Cohen, Cohen, West, and Aiken (2003) for moderated regression analysis. Specifically, these steps included (1) standardizing the predictor variables of transcendence and symbolism, (2) calculating cross-product terms with these standardized variables, (3) entering these standardized scores into a hierarchical analysis with the cross-product term entered on the second step, and (4) reporting the unstandardized coefficients from the analysis (as all variables were standardized prior to entry).

RESULTS AND DISCUSSION

Correlations among all but the post-critical beliefs measures are presented in Table 2. The three religious orientation measures correlated positively with each other. The Intrinsic Religious Orientation Scale was related to greater agreeableness, and Quest was associated with

Table 2. Correlations among Religious Orientation, Big Five, and Mental Health Measures

Measures	2.	3.	4.	5.	6.	7.	8.	9.	10.
<u>Religious Variables</u>									
1. Intrinsic Orientation.	.40***	.33***	.02	.24**	.12	-.01	-.07	-.07	-.12
2. Extrinsic Orientation		.31***	.09	.09	.10	-.11	-.14	.07	-.01
3. Quest		—	.15*	.22**	.06	-.02	.23**	-.16*	-.27***
<u>Big 5 Factors</u>									
4. Extraversion			—	.18*	-.04	.12	.14	-.12	-.23***
5. Agreeableness				—	.22**	-.08	.24**	-.16*	-.21**
6. Conscientiousness					—	.09	.17*	-.11	-.19*
7. Emotional Stability						—	-.11	-.50***	-.31***
8. Openness to Experience							—	-.12	-.23**
<u>Mental Health</u>									
9. Anxiety								—	.60***
10. Depression									—

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

Table 3. Correlation and Multiple Regression Analyses of Transcendence (T) and Symbolism (S) Factors with Religious Orientation, Big Five, and Mental Health Measures

Scale	Correlations		R^2	Multiple Regressions			
	T	S		Step 1		Step 2	
				B for T	B for S	ΔR^2	B for T x S
Intrinsic Orientation	.61***	-.40***	.42***	.32***	-.17***	.00	.01
Extrinsic Orientation	.40***	-.02	.17***	.21***	.06	.02*	.05*
Quest	.28***	.02	.09***	.18***	.07	.00	-.03
Extraversion	.09	.08	.02	.08	.08	.01	.05
Agreeableness	.29***	-.32***	.14***	.13**	-.15**	.00	-.02
Conscientiousness	.14	-.11	.02	.08	-.05	.01	-.05
Emotional Stability	-.01	.00	.00	-.01	.00	.00	-.04
Openness to Experience	.04	.18*	.04*	.07	.13**	.03*	-.08*
Anxiety	-.11	.02	.01	-.08	-.01	.03*	.10*
Depression	-.14	-.11	.03	-.07	.03	.01	.03

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

greater extraversion, agreeableness, and openness to experience and with lower anxiety and depression.

Table 3 summarizes the correlation and multiple regression results for transcendence and symbolism. Transcendence correlated positively with all three religious orientations and with agreeableness. Symbolism displayed a negative linkage with the intrinsic religious orientation and agreeableness and a direct relationship with openness to experience. In the first step of the multiple regression procedures, both post-critical beliefs made significant, independent contributions to the prediction of the Intrinsic Religious Orientation Scale and to agreeableness.

Transcendence and symbolism also interacted to predict responding on the extrinsic orientation, openness to experience, and anxiety Scales (see the last two columns of Table 3). These interactions were clarified by using procedures outlined by Aiken and West (1991) and by Cohen et al. (2003). Specifically, the relationship between transcendence and each dependent variable was plotted at three levels of the moderator variable symbolism set at $-2 SD$, 0 , and $+2 SD$ from its M level. As Figure 1 demonstrates, openness to experience and anxiety displayed a similar pattern of results. Transcendence was positively related with

both of these measures when symbolism was low, but negatively related when symbolism was high. For the Extrinsic Religious Orientation Scale, all relationships with transcendence were positive, but the association became stronger at higher levels of symbolism.

Results of this first study most importantly demonstrated that post-critical beliefs apparently had a basic dialogical potential in efforts to understand the religious and psychological functioning of Iranian Muslims. Beliefs associated with transcendence were consistent with the three religious orientations that have gained prominence in the western research literature. Perhaps most noteworthy was the direct transcendence relationship with a Quest Scale that broadly predicted adjustment, including the greater openness to experience that theoretically defines one aspect of the quest religious motivation. While also associated with greater openness to experience, symbolism seemed instead to be at least somewhat incompatible with an intrinsic embrace of religion. The finding that symbolism also predicted lower levels of agreeableness was perhaps unsurprising given that beliefs in apparent opposition to orthodoxy might have problematic implications within the social life of a theocracy.

Especially noteworthy in this first study were findings that transcendence and symbolism interacted in predicting three variables (see Figure 1). Such results suggested that Wulff's (1997) typology had at least some validity when applied to Iranian Muslims. Tendencies toward restorative interpretation (high transcendence—high symbolism), for example, were associated with the strongest extrinsic religious orientation. Again, the Extrinsic Religious Orientation Scale reflects a use of religion for this-worldly purposes. Association of an extrinsic religious motivation with restorative interpretation perhaps supported the Muslim claim that Islam has the potential to integrate the spiritual and temporal dimensions of life (Moughrabi, 1995).

With regard to anxiety, post-critical beliefs displayed a more complex interaction. Along the dimension of low symbolism, movement from literal disaffirmation (low transcendence—low symbolism) toward literal affirmation (high transcendence—low symbolism) was accompanied by a shift from low to high anxiety. This outcome seemed consistent with Wulff's (1997) conclusion that literal affirmation is associated with psychological liabilities. A more specific implication might be that a defensive anxiety underlies Muslim commitments to a literal interpretation of beliefs. In contrast, the movement from reductive interpretation

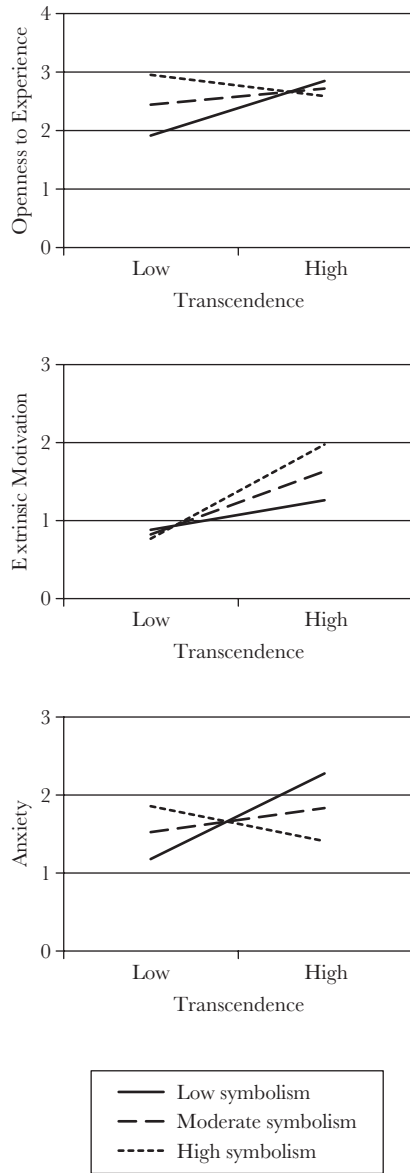


Figure 1. Interactions between Transcendence and Symbolism Predicting Openness to Experience, Extrinsic Motivation, and Anxiety

(low transcendence—high symbolism) to restorative interpretation (high transcendence—high symbolism) was associated with an opposite transition from high to low anxiety. This result perhaps revealed that a restorative attempt to interpret religious beliefs symbolically was associated with more adaptive mental health consequences.

Most surprising, however, was the interaction obtained with openness to experience. A slight trend from higher to lower openness appeared in the movement from reductive to restorative interpretation, this pattern seemed to contradict the most obvious theoretical implications of Wulff's typology. Restorative interpretation presumably should be associated with greater rather than lower openness. Even more striking, however, was the counterintuitive stronger shift from lower to higher openness in the transition from literal disaffirmation toward literal affirmation. In trying to understand this interaction, it may also be important to remember that openness was positively correlated with agreeableness and conscientiousness and negatively correlated with depression. Such results, therefore, suggest a very different conclusion from that supported by the anxiety data of this first study and perhaps by dominant western perspectives on the consequences of especially literal affirmation. Relative to openness to experience, literal affirmation appeared to be relatively well-adjusted whereas restorative interpretation seemed to be associated with at least some tendency toward less adjustment.

In summary, this first study demonstrated that post-critical beliefs could be associated with the basic religious motivations frequently examined within the western research literature. Transcendence predicted higher scores on the intrinsic, extrinsic, and Quest Religious Orientation Scales, and perhaps unsurprisingly, given the theocratic context, a transcendence that was broadly compatible with religious motivations was also associated with greater agreeableness. As might be expected, symbolism displayed a direct linkage with openness to experience, but symbolism was also associated with lower agreeableness, a perhaps equally unsurprising outcome given the negative correlation of this measure with the intrinsic religious orientation in the same theocratic social circumstances. Most importantly, however, transcendence and symbolism interacted to predict the extrinsic religious orientation, openness to experience, and anxiety. Such outcomes confirmed the plausibility of applying Wulff's (1997) four-fold typology to Iran. The discovery that literal affirmation (high transcendence—low symbolism) was associated with greater openness to experience nevertheless seemed

to be especially noteworthy in suggesting that this typology might have unanticipated implications in Muslim societies.

STUDY 2

Post-critical beliefs correlated negatively with each other after these two measures were constructed based upon the preliminary factor analysis. Then, in the first study, transcendence predicted higher and symbolism predicted lower intrinsic religious orientation scores. Transcendence also displayed direct linkages with the Extrinsic Religious Orientation and Quest Scales, but symbolism was unrelated to these other religious motivations. In Iran, therefore, post-critical beliefs seemed to define somewhat polarized positions with transcendence largely consistent and with symbolism at least partially incompatible with religious perspectives. The second study made it possible to test this tentative description of Iranian post-critical beliefs as at least somewhat polarized in their religious implications. Additional mental health correlates of transcendence and symbolism were examined as well.

Iranian religious functioning was first clarified with the Piedmont (2004) Spiritual Transcendence and Religious Sentiment Scales. Spiritual transcendence includes three subscales that record “the capacity of individuals to stand outside of their immediate sense of space and time to view life from a larger, more objective perspective” (Piedmont, 1999, p. 988). Prayer Fulfillment is evident in such claims as, “I meditate and/or pray so that I can grow as a person.” Exemplifying Universality is the self-report that “there is an order to the universe that transcends human thinking.” Connectedness refers to a “sense of personal responsibility to others that is both, vertical, cross-generational commitments, and horizontal, commitments to others in my community” (Piedmont, 1999, p. 996). An illustrative “horizontal” item says, “The praise of others gives deep satisfaction to my accomplishments,” whereas a reverse scored “vertical” statement argues, “Death does stop one’s feeling of emotional closeness to another.”

Spiritual transcendence measures have a clear dialogical potential. These subscales have proven to be valid when administered to largely Catholic samples in the Philippines (Piedmont, 2007; Dy-Liacco, Kennedy, Parker, & Piedmont, 2005), and they also have usefully clarified the religious functioning of Hindus, Christians, and Muslims in India (Piedmont & Leach, 2002). In addition, all three measures seemed

relevant to Iranian post-critical beliefs. Daily prayers are one of the five pillars of Islam (e.g., Altareb, 1996; El Azayem & Hedayat-Diba, 1994), and Muslims are committed to building a compassionate community or *ummah* (Armstrong, 2000). Prayer fulfillment and connectedness, therefore, seemed germane to Muslim assumptions about transcendence. Moreover, Wulff's (1997) attitude of restorative interpretation seemed to be implied in the universality belief that there is an order to the universe that transcends human thinking.

Religious Sentiment Scales assess religiosity and religious crisis (e.g., Horn, Piedmont, Fialkowski, Wicks, & Hunt, 2005). Religiosity items asked such questions as "how often do you read the Qur'an" and "how important to you are your religious beliefs." Indicative of religious crisis were self-reports that "I feel that God is punishing me" and that "I find myself unable, or unwilling, to involve God in the decisions I make in my life." Especially interesting relative to the issue of polarization was the possibility that transcendence might correlate positively with religiosity and negatively with religious crisis, whereas an opposite pattern might appear for symbolism.

Iranian religious functioning was further clarified with the Hood (1975) Mysticism Scale. Mystical experiences involve a sense of transcendent unity. The Hood scale operationalizes three dimensions of mystical experience that the philosophical analysis of Stace (1960) identified as common across cultures and traditions (Hood, Morris, & Watson, 1993). Awareness of the unity of all things was how Stace characterized *extrovertive mysticism*, and it appears in the self-report that "I have had an experience in which I realized the oneness of myself with all things." *Introvertive mysticism* involves the consciousness of an ultimate void that is without time and space. One introvertive item states, for example, "I have had an experience in which everything seemed to disappear from my mind until I was conscious only of a void." A final religious interpretation factor records tendencies to understand mystical experiences in religious terms. Illustrative of religious interpretation is the assertion, "I have had an experience which I knew to be sacred."

In a previous study, confirmatory factor analysis demonstrated that the three factor structure of the Mysticism Scale adequately described the responding of Iranian Muslims (Hood et al., 2001). The validity of these three factors has also been established in a number of other Iranian studies (Ghorbani, Watson, Ghramaleki, Morris, & Hood, 2000; Ghorbani, Watson, & Rostami, 2007; Ghorbani & Watson, in press). The Mysticism Scale, therefore, seems to have a dialogical potential

for clarifying Iranian religious functioning. Of special interest in the present project was the possibility that mystical experience would be associated with restorative interpretation. Such a possibility seemed evident in Wulff's (1997) description of restorative interpretation as an attempt "to reengage with objects of religious faith in a way that allows them to speak of the transcendent reality toward which they point" (p. 638).

Four new measures extended the psychological analysis of Iranian religious functioning. The Mindful Attention Awareness Scale records an awareness of the ongoing experience of the self in the present (Ryan & Brown, 2003). Mindfulness serves as an ideal in numerous contemplative religious traditions, and in Iran as elsewhere, mindfulness is a correlate of psychological adjustment (Ghorbani & Watson, in press).

Also administered was the Integrative Self-Knowledge Scale (Ghorbani, Watson, & Hargis, in press). In arguing for the development of a uniquely Islamic psychology, Haque (2004) has emphasized that early Muslim scholars identified self-knowledge as essential for personal well-being. The Integrative Self-Knowledge scale was recently developed to record an adaptive and empowering attempt of the self to understand its own psychological dynamics across time (Ghorbani, Watson, & Hargis, in press). Items include such statements as "if I need to, I can reflect about myself and clearly understand the feelings and attitudes behind my past behaviors" and "by thinking deeply about myself, I can discover what I really want in life and how I might get it."

Administration of the Integrative Self-Knowledge Scale seemed particularly useful in clarifying what was perhaps the most unexpected outcome of the first study. literal affirmation predicted tendencies toward greater openness to experience, which involves such characteristics as being insightful, wise, intelligent, foresighted, curious, and open-minded (John & Srivastava, 1999). In a recent Iranian investigation, openness to experience was especially noteworthy among the big five traits in explaining variance in integrative self-knowledge scores (Tahmasb, Ghorbani, & Watson, in press). In other words, integrative self-knowledge seemed to reflect, at least in part, a cognitively engaged openness to internal experiences of the self. If openness were a general feature of literal affirmation in Iran, then this attitude presumably would also be associated with greater integrative self-knowledge.

Finally, the mental health implications of post-critical beliefs were reexamined with different measures of depression and anxiety. In the first study, neither transcendence nor symbolism correlated with what

were essentially state measures of these two constructs (Zigmond & Snaith, 1983). The Costello and Comrey (1967) scales operationalize more dispositional forms of anxiety and depression and have been useful in previous attempts to understand Iranian religious functioning (e.g., Watson et al., 2002; Ghorbani & Watson, 2006b; Ghorbani, Watson, & Rostami, 2007). These scales, therefore, were administered in the second study based on the assumption that the mental health implications of longer-term psychological characteristics like religious beliefs are more likely to have clearer connections with trait than with state measures of depression and anxiety.

In short, this second study explored the possibility that post-critical beliefs had at least somewhat polarized religious implications in Iran. Spiritual transcendence, religious sentiment, mysticism, and even psychological scales like mindfulness and integrative self-knowledge seemed potentially relevant to Muslim religious beliefs. The polarization hypothesis suggested that correlations for transcendence would be positive with spiritual transcendence, religiosity, mysticism, mindfulness, and integrative self-knowledge and negative with religious crisis. Opposite relationships were expected for symbolism. Of additional interest was the possibility that universality and mysticism might be indicative of restorative interpretation and that integrative self-knowledge might be associated with literal affirmation. In other words, the hypothesis was that significant interactions between transcendence and symbolism would again confirm the validity of Wulff's (1997) typology in Iran, with findings for universality, mysticism, and integrative self-knowledge being especially notable.

METHOD

Participants

Undergraduates from the same Iranian university responded to questionnaires of the second study. Their average age was 21.8 years ($SD = 2.5$). The sample included 76 men, 140 women, and 1 individual who failed to indicate gender.

Measures and Procedures

Procedures paralleled those of the first study. All scales appeared in a single questionnaire booklet. Responding to Mindfulness items occurred

along a 1 to 6 Likert scale. Religious sentiment measures used 1 to 5 response options. Other instruments were associated with a 0 to 4 Likert Scale.

Post-critical beliefs were again presented last. Appearing first in the booklet was the Mindfulness Scale ($M = 4.00$, $SD = 0.78$, $\alpha = .78$), followed by the Integrative Self-Knowledge Scale ($M = 2.43$, $SD = 0.66$, $\alpha = .78$); then the Assessment of Spirituality and Religious Sentiments Scale (ASPIRES, Piedmont, 2004); Religiosity ($M = 3.48$, $SD = 1.03$, $\alpha = .73$) and Religious Crisis ($M = 2.14$, $SD = 0.78$, $\alpha = .63$) measures from the Religious Sentiment Scale; Prayer Fulfillment ($M = 3.08$, $SD = 0.88$, $\alpha = .90$), Universality ($M = 3.74$, $SD = 0.69$, $\alpha = .74$), and Connectedness ($M = 3.64$, $SD = 0.62$, $\alpha = .50$); the religious interpretation ($M = 2.46$, $SD = 0.71$, $\alpha = .81$), introvertive ($M = 2.18$, $SD = 0.70$, $\alpha = .66$), and extrovertive ($M = 2.28$, $SD = 0.71$, $\alpha = .82$) mysticism factors; and the Costello and Comrey (1967) anxiety ($M = 1.91$, $SD = 0.76$, $\alpha = .80$) and depression ($M = 1.45$, $SD = 0.75$, $\alpha = .90$) Scales. As these Cronbach's α data suggest, all but one of these measures displayed internal reliabilities that were generally acceptable for research purposes. The one exception was connectedness measure from the ASPIRES Scale, which has displayed similarly low internal consistencies in previous investigations (e.g., Dy-Liacco et al., 2005; Piedmont, 2007).

RESULTS AND DISCUSSION

Spiritual transcendence, religiosity, and mysticism measures all correlated positively with each other (see Table 4). All but introvertive mysticism also displayed a negative relationship with religious crisis. Patterns of association among the psychological measures confirmed mindfulness and integrative self-knowledge as apparently adaptive in contrast to depression and anxiety. Prayer fulfillment, universality, and religious interpretation exhibited positive linkages with mindfulness and integrative self-knowledge and negative correlations with depression. Opposite relationships with these psychological measures appeared for religious crisis. Religious interpretation and extrovertive mysticism correlated negatively with anxiety and with depression. Both connectedness and religiosity predicted slightly higher levels of integrative self-knowledge and slightly lower depression. Connectedness was also associated with a small positive correlation with anxiety.

Table 4. Correlations among Religious Orientation, Big Five, Anxiety and Depression Measures

Measures	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
<u>Spiritual Transcendence and Religious Sentiment</u>											
1. Prayer Fulfillment	.66***	.51***	.53***	-.53***	.59***	.33***	.41***	.28***	.27***	-.02	-.34***
2. Universality	—	.44***	.29***	-.52***	.54***	.25***	.39***	.40***	.27***	-.10	-.44***
3. Connectedness		—	.27***	-.34***	.44***	.27***	.29***	.10	.15*	.15*	-.14*
4. Religiosity			—	-.24***	.35***	.36***	.31***	.09	.15*	-.04	-.14*
5. Religious Crisis				—	-.38***	-.04	-.23**	-.30***	-.34***	.13	.40***
<u>Mysticism</u>											
6. Religious Interpretation					—	.56***	.72***	.14*	.19**	-.14*	-.37***
7. Introverted						—	.64***	-.06	.00	-.01	-.07
8. Extroverted							—	.06	.12	-.14*	-.21*
<u>Mental Health</u>											
9. Mindfulness								—	.39***	-.34***	-.37***
10. Integrative Self-Knowledge									—	-.41***	-.40***
11. Anxiety										—	.33***
12. Depression											—

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

Table 5. *Correlation and Multiple Regression Analyses of Transcendence (T) and Symbolism (S) with Spiritual Transcendence and Religious Sentiment, Mysticism, and Mental Health*

Scale	Correlations		R^2	Multiple Regressions			
	T	S		Step 1 B for T	B for S	Step 2 ΔR^2	B for T x S
<u>Spiritual Transcendence and Religious Sentiment</u>							
Prayer Fulfillment	.62***	-.38***	.41***	.49***	-.16**	.00	-.02
Universality	.39***	-.28***	.17***	.23***	-.11*	.01	-.04
Connectedness	.29***	-.06	.09***	.19***	.03	.00	-.03
Religiosity	.38***	-.18*	.14***	.23***	-.03	.00	.02
Religious Crisis	-.25***	.23**	.09***	-.15**	.13*	.00	-.01
<u>Mysticism</u>							
Religious Interpretation	.40***	-.26***	.18***	.25***	-.10*	.00	.03
Introvertive	.24***	-.01	.06**	.19***	.06	.00	.03
Extrovertive	.23**	-.20**	.07**	.13*	-.10	.03**	.11**
<u>Mental Health</u>							
Mindfulness	.15*	-.21**	.05**	.07	-.13*	.01	-.07
Integrative Self-Knowledge	.03	-.03	.00	.01	-.01	.01	-.07
Anxiety	.12	.20**	.08***	.16**	.21***	.00	.00
Depression	-.28***	.33***	.14***	-.14**	.20***	.03*	.10*

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

As Table 5 makes clear, post-critical beliefs did indeed describe somewhat polarized perspectives on religion. Transcendence displayed positive connections with all religious variables except for its negative linkage with religious crisis. Transcendence was also associated with greater mindfulness and lower depression. Symbolism instead correlated negatively with prayer fulfillment, universality, religiosity, religious interpretation, extrovertive mysticism, and mindfulness. In addition, it correlated positively with religious crisis, anxiety, and depression.

In the first step of the multiple regressions, transcendence and symbolism made opposite and independent contributions to the prediction of prayer fulfillment, universality, religious crisis, religious interpretation, and depression (see Table 5). Transcendence was the lone positive predictor of connectedness, religiosity, introvertive mysticism, and extrovertive mysticism. Symbolism was the lone negative predictor of

mindfulness. Surprisingly, both post-critical beliefs were tied to higher levels of anxiety.

Significant interactions between transcendence and symbolism were identified for extrovertive mysticism and for depression (see last two columns of Table 5). Transcendence correlated positively with extrovertive mysticism when symbolism was high and negatively when Symbolism was low (see Figure 2). Perhaps most noteworthy in this pattern of results was the possibility that extrovertive mysticism might indeed be associated with restorative interpretation (high transcendence—high symbolism), as suggested in Wulff's (1997) description of this attitude as an attempt to rediscover a transcendent reality within religious faith. This form of mysticism also seemed to be at least somewhat incompatible with literal affirmation (high transcendence—low symbolism).

With regard to the other significant interaction, transcendence also was negatively associated with depression when symbolism was low and slightly positively associated with depression when symbolism was high (see Figure 2). The tendency in Iran, therefore, was for literal affirmation (high transcendence—low symbolism) to be associated with less depression, whereas restorative interpretation (high transcendence—high symbolism) displayed at least some slight tendency toward more depressed psychological functioning.

Finally, it is important to note that no significant interaction appeared for integrative self-knowledge. In a previous Iranian study (Tahmasb et al., in press), Openness to experience was noteworthy among the big five traits in explaining variance in integrative self-knowledge. Hence, integrative self-knowledge seemed to reflect openness to inner experience. The hypothesis of a significant interaction in predicting integrative self-knowledge, therefore, tested the possibility that literal affirmation in Iran might be associated with a more general cognitive openness. Support for this idea was not obtained.

In summary, this second study confirmed that post-critical beliefs seemed to represent largely polarized religious perspectives in Iran. Transcendence also displayed mostly adaptive and symbolism mostly maladaptive psychological implications. The one exception to this conclusion about mental health involved the finding that transcendence joined symbolism in serving as simultaneous positive predictors of anxiety in the multiple regression analysis. Extrovertive mysticism data also supported the idea that at least this dimension of mystical experience might be consistent with restorative interpretation (high

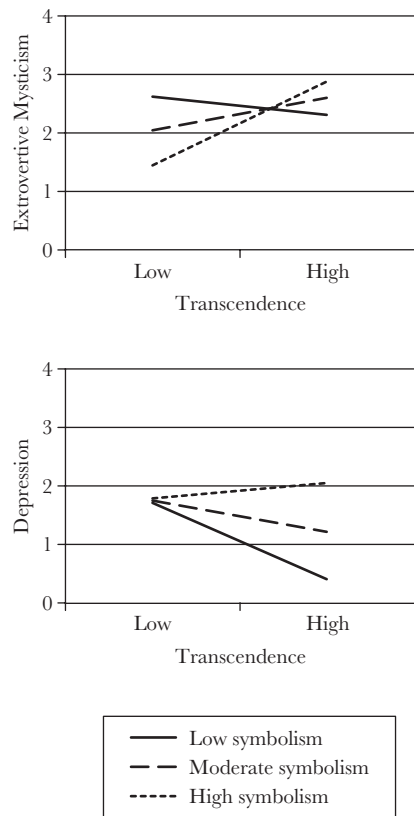


Figure 2. *Interactions between Transcendence and Symbolism Predicting Extraverted Mysticism and Depression*

transcendence—high symbolism), but findings for depression revealed that this religious attitude might have more problematic implications as well, especially in comparison with the high transcendence and low symbolism of literal affirmation. Finally, the fact that transcendence and symbolism interacted to predict openness to experience in the first study suggested that they might do the same thing with regard to integrative self-knowledge in the second study. This did not occur, and the hypothesis that literal affirmation might be associated with a more general Iranian cognitive openness, therefore, failed to receive support.

STUDY 3

Does literal affirmation predict cognitive openness in Iran? Openness to experience data pointed toward that possibility in the first study, but findings for integrative self-knowledge in the second study failed to confirm the hypothesis. There are at least three potential explanations for these results. First, the initial association perhaps reflected processes that were somewhat specific to openness, and thus was not attributable to a more general cognitive openness. Second, the initial result could have been due to chance, with no reliable linkage actually existing between literal affirmation and openness to experience in Iran. Such an explanation would seem consistent with prominent Western assumptions that the more conservative religious perspectives have problematic consequences that can be documented empirically (Wulff, 1997). Indeed, from a western perspective, the dominant presumption would likely be that literal affirmation should predict lower rather than higher openness. Finally, the failure of integrative self-knowledge to be associated with literal affirmation in the second study could have occurred due to atypical sample characteristics that prevented the relationship from becoming apparent. Indeed, within at least some prominent Iranian Muslim perspectives, the presumption would likely be that traditional religious attitudes can in fact foster a general cognitive openness.

The purpose of this final study was to examine these contrasting interpretative possibilities. Research participants once again responded to the Openness to Experience and Integrative Self-Knowledge Scales. Need for Cognition (Cacioppo, Petty, Feinstein, & Jarvis, 1996) and Attributional Complexity (Fletcher, Danilovics, Fernandez, Peterson, & Reeder, 1986) Scales were also presented as additional measures

of *cognitive openness*. Individuals scoring high on the need for cognition have “active, exploring minds and through their senses and intellect, reach and draw out information from their environment” (Cacioppo et al., p. 199). Attributional complexity operationalizes an intrinsic motivation to use complex schemas in attempts to understand the self and others. Persian translations of both measures have proven to be valid in numerous previous Iranian investigations (e.g., Ghorbani, Bing, Watson, Davison, & LeBreton, 2003; Ghorbani, Watson, Bing, Davison, & LeBreton, 2003; Ghorbani & Watson, 2004a; Ghorbani, Ghramaleki, & Watson, 2005).

Administration of the Costello and Comrey (1967) Anxiety and Depression Scales made it possible to evaluate the mental health implications of all four cognitive openness measures and to reexamine an unexpected outcome of the second study. When entered simultaneously into the first step of a multiple regression in study 2, transcendence and symbolism both predicted higher levels of Anxiety. This was a surprising result for transcendence given that this factor otherwise tended to predict greater adjustment. Could this effect be replicated? The final study sought to answer that question as well.

In short, the third study most importantly tested the hypothesis that transcendence and symbolism would display significant interactions linking the attitude of literal affirmation (high transcendence—low symbolism) with a more general cognitive openness as measured by openness to experience, integrative self-knowledge, need for cognition, and attributional complexity scales. Results of the previous study also supported the expectation that both transcendence and symbolism would be associated with greater anxiety when used as simultaneous predictors in multiple regression procedures.

METHOD

Participants

The third sample included 72 men, 91 women, and 4 individuals who failed to indicate their gender. All were undergraduates at the University of Tehran. Average age was 20.9 years ($SD = 2.5$).

Table 6. *Correlations among Cognitive Openness and Mental Health Measures*

Measures	2.	3.	4.	5.	6.
<u>Cognitive Openness</u>					
1. Need for Cognition	.56***	.57***	.45***	-.15	-.37***
2. Attributional Complexity	–	.36***	.28***	.04	-.19*
3. Openness to Experience		–	.30***	-.05	-.27***
4. Integrative Self-Knowledge			–	-.38***	-.41***
<u>Mental Health</u>					
5. Anxiety				–	.47***
6. Depression					–

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

Measures and Procedures

Responding to all instruments occurred along a 0 to 4 Likert scale. Measures again appeared in a questionnaire booklet with the post-critical beliefs close to the end just before a final section containing the Costello and Comrey (1967) anxiety ($M = 1.78$, $SD = 0.77$, $\alpha = .77$) and depression ($M = 1.47$, $SD = 0.80$, $\alpha = .89$) scales. Appearing first in the booklet was the Integrative Self-Knowledge Scale ($M = 2.60$, $SD = 0.67$, $\alpha = .76$), followed in sequence by the openness to experience ($M = 2.63$, $SD = 0.63$, $\alpha = .70$), need for cognition ($M = 2.54$, $SD = 0.62$, $\alpha = .82$), and attributional complexity ($M = 2.49$, $SD = 0.59$, $\alpha = .84$) measures. Procedures for this project followed those of the first two studies.

RESULTS AND DISCUSSION

As Table 6 makes clear, the four cognitive openness measures correlated positively with each other and negatively with depression. A negative correlation also appeared between integrative self-knowledge and anxiety. Table 7 demonstrates that transcendence correlated positively with attributional complexity and negatively with depression, whereas symbolism correlated positively with both Costello and Comrey (1967) scales.

The first step of the multiple regression procedures most importantly replicated the finding that the two post-critical beliefs simultaneously predicted greater anxiety. Positive associations also appeared between

Table 7. Correlation and Multiple Regression Analyses of Transcendence (T) and Symbolism (S) Factors with Spiritual Transcendence, Religious, Sentiment, Mysticism, and Mental Health Measures

Scale	Correlations		Multiple Regressions				
	T	S	R^2	Step 1		Step 2	
				B for T	B for S	ΔR^2	B for T x S
Need for Cognition	.11	-.08	.01	.05	-.02	.05**	-.14**
Attributional Complexity	.19*	-.06	.04*	.13*	.03	.09***	-.17***
Openness to Experience	.01	-.04	.00	-.01	-.03	.06**	-.15**
Integrative Self-Knowledge	.01	-.13	.02	-.05	-.11	.08***	-.18***
Anxiety	.07	.17*	.06**	.17*	.22**	.00	.02
Depression	-.16*	.29***	.08**	-.01	.23**	.02	.10

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

transcendence and attributional complexity and between symbolism and depression (see Table 7).

Most noteworthy, however, were observations that transcendence and symbolism interacted to predict all four measures of cognitive openness (see last two columns of Table 7). Figure 3 reveals that the same basic pattern was associated with each result. literal affirmation (high transcendence—low symbolism) and reductive interpretation (low transcendence—high symbolism) were connected with greater cognitive openness, whereas opposite associations were apparent for literal disaffirmation (low levels of both post-critical beliefs) and restorative interpretation (high levels of both).

One other aspect of these interaction data deserves comment. In the second study, post-critical beliefs interacted to predict depression. In the third study, the same unstandardized coefficient of .10 was obtained, but with a smaller sample, this outcome only reached a marginal level of significance ($t = 1.82$, $p = .07$). When this near-significant outcome was examined graphically, the pattern of the second study was replicated. In other words, literal disaffirmation and reductive interpretation were linked with an intermediate level of depression, and literal affirmation was associated with lower and restorative affirmation with higher depression. Therefore on examining this particular interaction, low power due to the use of a smaller sample apparently stood in the way of observing the significant outcome of the previous study.

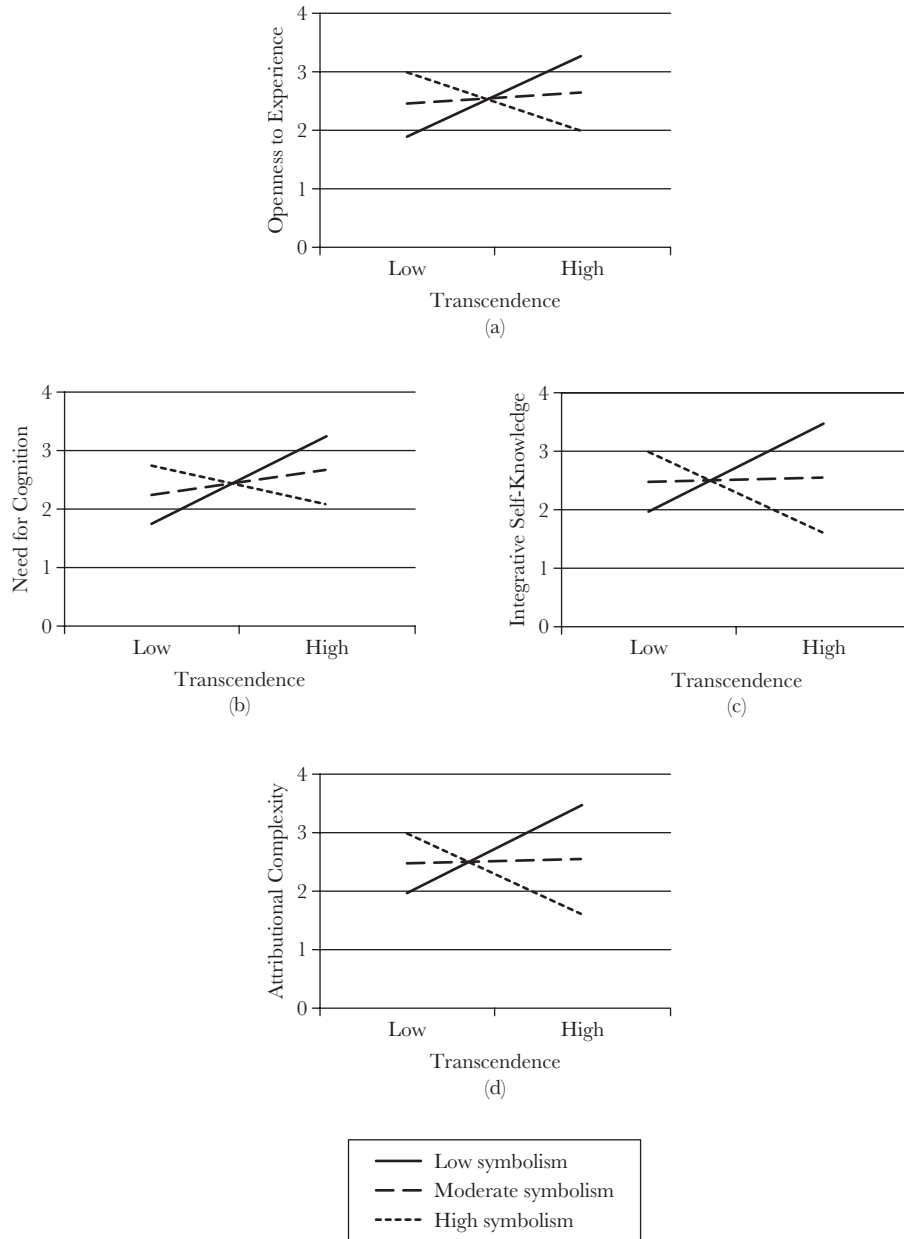


Figure 3. Interactions between Transcendence and Symbolism Predicting (a) Openness to Experience, (b) Need for Cognition, (c) Integrative Self-Knowledge, and (d) Attributional Complexity

In summary, this third study most strikingly demonstrated that a literal affirmation defined by high transcendence and low symbolism was associated with generally greater cognitive openness in Iranian Muslims. The failure of this attitude to predict integrative self-knowledge in the second study apparently reflected characteristics of that specific sample. That literal affirmation had more general implications for cognitive functioning was confirmed in associations not only with openness to experience and integrative self-knowledge, but also with attributional complexity and need for cognition. These findings, therefore, offered support for possible Muslim arguments that traditional religious attitudes have cognitively dynamic potentials.

GENERAL DISCUSSION

At the broadest level, this project attempted to use the brief Post-Critical Beliefs Scale to further illustrate the potential of a dialogical model for promoting development of a Muslim psychology of religion (Ghorbani, Watson, & Khan, 2007). The assumption of this model is that western social scientific frameworks can be brought into dialogue with Muslim perspectives in ways that usefully clarify both. Such an approach should make it possible, for example, to point toward more universal features of religious commitment, to uncover clues about what may be more unique aspects of Muslim commitments, and perhaps to identify inadequate or incomplete perspectives that might exist in either western or Muslim understandings of religion. The results of this investigation supplied at least some support for all of these possibilities.

Wulff (1997) developed a two-dimensional schema for describing religious commitments universally. He argued that individual and presumably cultural differences in religion can be categorized in terms of the degree to which they include or exclude the possibility of transcendence and to the extent that they rely upon literal versus symbolic interpretations of religious texts and practices. He further suggested that these two dimensions interact to define four basic religious attitudes, which he designated as literal affirmation (high transcendence—low symbolism), literal disaffirmation (low transcendence—low symbolism), reductive interpretation (low transcendence—high symbolism), and restorative interpretation (high transcendence—high symbolism).

The brief Post-Critical Beliefs Scale was created to operationalize these two dimensions of faith (Duriez et al., 2005), and in Iranian

Muslim samples, items from this scale could in fact be forced into two factors that were plausibly defined as measures of transcendence and symbolism. These two factors also interacted to predict a number of other variables, thereby supporting the possibility that Wulff's four-fold schema of religious attitudes is relevant to the Iranian religious context. The attempt to bring Post-Critical Beliefs into dialogue with Muslim commitments, therefore, seemed to confirm that Wulff's typology might have some potential in efforts to describe faith commitments more universally.

Transcendence and symbolism also displayed linkages with measures of religious and psychological functioning that seemed to have both more general and perhaps more Iranian-specific implications. As might be expected of virtually everyone committed to traditional faith, for example, Iranians who scored high on transcendence also displayed broadly stronger religious functioning. Specifically, transcendence correlated positively with the intrinsic, extrinsic, and quest religious orientations; with the prayer fulfillment, universality, and connectedness dimensions of spiritual transcendence; with religiosity; and with all three mysticism factors. The unsurprising suggestion of these relationships was that beliefs in transcendence may be a thread that ties religious functioning together.

At the same time, transcendence and symbolism apparently had polarized religious implications. Transcendence and symbolism displayed a robust negative correlation. In contrast to transcendence, symbolism also correlated negatively rather than positively with the intrinsic religious Orientation, prayer fulfillment, universality, religiosity, religious interpretation, and extrovertive mysticism measures. Polarization was perhaps most apparent in the additional finding that transcendence was associated with lower and symbolism with higher levels of religious crisis.

Wulff's (1997) schema assumes that higher and then lower levels of the two post-critical beliefs can be combined to define attitudes of restorative interpretation and literal disaffirmation, respectively. Therefore, the suggestion is that polarization should not be an invariant feature of all religious contexts. In a theocracy like Iran, however, cultural structures may encourage preservation of traditional definitions of transcendence through a sociologically normative application of interpretative principles that must be discovered literally within the texts and practices of the religion (Hood, Hill, & Williamson, 2005). In other words, polarization might be the expected product of a theocratic society dedicated

to protecting its religious foundations from symbolic dissolution. An important question for future research, therefore, may be to determine where patterns of polarization are and are not common.

Relationships of post-critical beliefs with psychological functioning also appeared to reflect the combination of both more general and more context-specific influences. Again, transcendence correlated positively with the Intrinsic Religious Orientation Scale, which often predicts psychological adjustment (e.g., Donahue, 1985). Linkages of transcendence with greater agreeableness, mindfulness, and attributional complexity and with lower depression, therefore, seemed to supply additional evidence that sincere traditional beliefs can have positive mental health implications generally.

The direct relationship of transcendence with attributional complexity, nevertheless, seemed to challenge any argument that more conservative religious beliefs must invariably be associated with cognitive rigidities (e.g., based upon Batson et al, 1993 or Wulff, 1997). In a theocratic context, transcendent beliefs are presumably important in structurally defining the frameworks around which social life is organized. Theocratic social arrangements might consequently require considerable attributional complexity in the application of religious concepts to daily life. The linkage of transcendence with greater attributional complexity may, therefore, have been more especially reflective of the Iranian context.

Symbolism in a context dedicated to religiously "literal" approaches to life would presumably be maladjusted almost necessarily by sociological definition. A symbolic interpretative stance might require an unusually high degree of openness in such an inhospitable social environment, but might also be associated with psychological liabilities. Not surprisingly, therefore, symbolism correlated positively with openness to experience, but also was associated with lower agreeableness and mindfulness and with higher anxiety and depression.

Perhaps most noteworthy in this series of studies were observations that transcendence and symbolism interacted to predict a number of religious and psychological variables. Specifically, attitudes of literal affirmation, literal disaffirmation, reductive interpretation, and restorative interpretation were useful in explaining variance in the extrinsic religious orientation, openness to experience, anxiety, extroverted mysticism, depression, need for cognition, attributional complexity, and integrative self-knowledge. Therefore, empirical support was obtained for the suggestion that Wulff's (1997) schema had at least some validity

within a Muslim society. More generally, such data also confirmed that Wulff's typology may have a dialogical potential for clarifying religious beliefs across traditions.

Among the observed interactions, some of the findings for extrovertive mysticism seemed especially consistent with Wulff's (1997) more general perspective on religion. Self-reported extrovertive mysticism involves personal experiences of the underlying unity of all things. In Iran, the greatest tendency toward such experiences was associated with high levels of both transcendence and symbolism, in other words, with a tendency toward restorative interpretation. According to Wulff, restorative interpretation involves an attempt to revivify religious faith by discerning an underlying transcendent reality that unifies all existence. The linkage of extrovertive mysticism with restorative interpretation seemed to reflect that possibility.

On the other hand, literal disaffirmation (low transcendence—low symbolism) in direct contrast with literal affirmation (high transcendence—low symbolism) also predicted greater extrovertive mysticism. Definitive clarification of this outcome will require more research. However, one useful hypothesis might be that literal disaffirmation in a theocratic context represents a profound alienation from the more socially dominant attitude of literal affirmation. In such a context, mystical experiences of the unity of all things might empower and be empowered by that alienation.

Some commentators emphasize that Muslim beliefs integrate the spiritual and temporal dimensions of life (Moughrabi, 1995). The interaction observed with the Extrinsic Religious Orientation Scale perhaps supplied evidence in favor of that proposition. Literal affirmation relative to literal disaffirmation and, even more obviously, restorative interpretation relative to reductive interpretation were associated with higher levels of the extrinsic religious orientation. In both instances, therefore, faithful commitments to transcendence apparently could be synthesized with this worldly religious interest, regardless of interpretative stance. Actually, more recent perspectives in the west have also emphasized the possibility that at least some extrinsic forms of faith may have positive potentials (Pargament, 1992). The present findings regarding restorative interpretation may support that suggestion.

Whereas the Extrinsic Religious Orientation Scale data may have suggested the positive potentials of restorative interpretation in Iran, results obtained with the Costello and Comrey (1967) Depression Scale pointed in the opposite direction. In the second study and in the mar-

ginally significant outcome of the third, restorative interpretation was associated with stronger tendencies toward depression. Literal affirmation, in contrast, displayed the lowest levels of depression. Once again, this pattern may have reflected important context dependent influences. Life in a theocracy presumably rests upon attitudes of literal affirmation. Individuals with such attitudes would thus have personalities that are more in tune with sociological circumstances, and they consequently might be less likely to be depressed. Other attitudes, including most notably restorative interpretation, would instead be, almost by definition, out of adjustment with the sociological situation, and thereby more likely associated with depression.

Underlying the dialogical model is the assumption that efforts to bring western research frameworks into conversation with non-western religious perspectives can be useful in uncovering limited understandings in each. The finding that literal affirmation predicted less depression in Iran may have identified a possible western confusion about more conservative beliefs. Again, Wulff (1997) suggests that the attitude of literal affirmation is associated with psychological liabilities. One possible interpretation of the depression data is that Wulff's argument may illustrate a western "psychologizing" of what is to some important degree a sociological process. More conservative beliefs may have more positive mental health implications within a more conservative theocratic context, whereas it may be more "liberal" attitudes like restorative interpretation that have problematic implications when they meet the challenges of daily life in a society dedicated to high transcendence and low symbolism.

Did any other findings suggest possible limitations or inadequacies in one or another perspective? Two possibilities may deserve consideration. In the first sample, a perhaps surprising interaction appeared with the Hospital Anxiety Scale. Literal affirmation in contrast to literal disaffirmation was associated with greater anxiety. A similar effect was not observed in the next two samples with the Costello and Comrey (1967) Anxiety Scale. However, with these two samples, transcendence did display a direct association when both post-critical beliefs were used simultaneously to predict anxiety. Numerous factors could have explained this pattern of outcomes, but one hypothesis might return to the apparently polarized context of Iran. In a theocratic culture, transcendence might indeed be associated with all kinds of psychological benefits, and consequently, Muslim perspectives on mental health might rightfully emphasize the overall positive mental health implications of

traditional faith. At the same time, however, it might be important to remain sensitive to a possible limitation in this point of view. Polarization might mean that transcendence may also be associated with the psychological liability of anxiety when framed within the context of symbolism.

Even clearer evidence of a potential inadequacy in perspective appeared in the interactions observed for the cognitive openness measures. Reductive interpretation more than restorative interpretation and, more importantly, literal affirmation more than literal disaffirmation predicted greater cognitive openness. This effect was not limited to just one sample or to just one scale, but was obtained one or more times in two samples with four relevant measures that included openness to experience, need for cognition, attributional complexity, and integrative self-knowledge. The contrast that this pattern of results presented with dominant western perspectives on religion was perhaps the most striking outcome of this project. In conformity with other western frameworks (e.g., Batson et al., 1993), Wulff's (1997) typology tends to describe more "conservative" interpretative perspectives like literal affirmation as cognitively rigid and more "liberal" attitudes like restorative interpretation as more cognitively complex. Interactions seemed to identify this interpretation as a potential western misunderstanding.

Among other possibilities, the present data, therefore, suggested a hypothesis about religious cognitive functioning that deserves attention in future research. Western assumptions about religious psychological functioning may once again reflect the "psychologizing" of what is to some important degree a sociological phenomenon. On the one hand, a theocratic context may promote social structures that encourage the investment of cognitive energies in more conservative attitudes like literal affirmation. On the other hand, a theocratic polarization of perspectives may also produce an alienation that is mobilized cognitively in attitudes of reductive interpretation. Western cultural arrangements may instead encourage a cognitive nurturing of restorative interpretation and a religious alienation that energizes thought forms associated with literal disaffirmation. In other words, the cognitive complexity of more "conservative" and more "liberal" religious perspectives may be context dependent. Empirical investigations across cultures would be useful in evaluating such a possibility.

Limitations

Interpretations of the present results must of course be conditioned by innumerable caveats. Greatest emphasis should perhaps be placed upon the factor analytic procedures. Principal axis factoring was used to analyze the brief Post-Critical Beliefs Scale, whereas western studies have used procrustes rotations (and other procedures associated with acquiescent response sets) to fit the data to a structure theoretically consistent with Wulff's four-fold typology (Duriez et al., 2005). In the present project, the principal axis factor analysis was justified, in part, on the claim that this procedure was more culturally neutral and would allow Iranians to speak for themselves about how to structure of their own religious attitudes. The potentially important implications of this assumption might be illustrated in arguments a western skeptic might make against the conclusion that more conservative Muslim attitudes like literal affirmation can be associated with greater rather than less cognitive openness. The skeptic might argue that this evidence was a mere artifact of the factoring procedure. Discovery of the "true" cognitive rigidity of conservative Muslims would instead appear through careful research that eventually identified the appropriate rotation that could produce this outcome. And with a worst case scenario, even if these particular items could not be used to demonstrate such a result, then development of different items more appropriate for the Iranian context would surely do so.

At least two responses to this skepticism seem most noteworthy. First, the argument might simply be true. Additional studies using different statistical procedures or different measures of post-critical beliefs might indeed be able to connect more conservative Muslim perspectives with cognitive rigidity. Second, and more importantly, however, the findings of this Iranian project would suggest that such results would be no less the product of artifact than the present data. Even if more skeptical analyses of conservative Muslim beliefs could be supported empirically, such outcomes could not be taken as the whole truth, as the present data seems to make clear. If diametrically opposite results could be discovered based upon variations in procedure, then the implication would seem to be that ideological factors may operate to socially construct, at least in part, empirical observations associated with the psychology of religion. Such a possibility has in fact been suggested previously for the psychology of religion in general (Watson, 1993), and for research

into Muslim (e.g., Ghorbani & Watson, 2004b; Ghorbani, Watson, & Khan, 2007) and other forms of religious commitment (Watson, in press), more particularly.

With regard to other limitations, samples in the present project involved students enrolled in a major Iranian university. Undergraduates will not be fully representative of Iranian society. Age and socioeconomic contrasts with other Iranians might be especially important in delimiting the findings of the present project. An examination of other groups will, therefore, be essential before the conclusions of this project can be generalized with confidence to the entire Iranian population.

Sample to sample contrasts also were apparent in the obtained results. Most notably, transcendence and symbolism interacted to predict integrative self-knowledge in the final but not in the second sample. Influences that made it possible to observe an outcome in one but not another sample clearly need to be explained.

How psychological constructs are operationalized may also deserve some additional attention. Measures of depression and anxiety yielded contrasting results depending upon whether these scales tended to record state or trait aspects of psychological maladjustment. Such contrasts may point toward important dynamics that influence relationships between religious and psychological functioning.

Finally, findings of this project were all correlational, and thus cannot supply definitive support for any assumptions about causality. Perhaps, for example, a personal disposition toward depression facilitated the adoption of attitudes associated with restorative interpretation rather than vice versa. And perhaps aspects of Iranian society other than its theocratic cultural foundations were critical in producing the observed outcomes.

CONCLUSION

In summary, the present project used the brief Post-Critical Beliefs Scale to dialogically clarify the religious and psychological functioning of Iranian Muslims. At the broadest level, post-critical beliefs described a two factor structure involving what seemed to be religiously polarized beliefs about transcendence and symbolism. Transcendence appeared to be a common thread that tied other aspects of Iranian religious functioning together, whereas symbolism seemed to be largely incompatible with religious commitments. Although complexities did appear, transcendence

was related to more adjusted, and symbolism to more maladjusted forms of psychological functioning. Perhaps most importantly, however, transcendence and symbolism interacted to predict a number of religious and psychological measures, thereby supporting the validity of Wulff's four-fold typology of religious attitudes in Iran. Especially linkages of literal affirmation with cognitive openness suggested a need for caution in future attempts to generalize western perspectives on religion and mental health to the Muslim cultural context. These cognitive openness data also seemed to be particularly useful in demonstrating the positive potentials of a dialogical model to encourage the development of a more international psychology of religion.

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