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# Post-Critical Beliefs and Religious Reflection: Religious Openness Hypothesis in Iranian University and Islamic Seminary Students

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## Abstract

Negative relationships between Post-Critical Beliefs in Iran imply that Muslim perspectives are closed-minded, but positive correlations between Religious Reflection factors point instead toward a Muslim open-mindedness. The hypothesis of this study was that this contrast reveals the Post-Critical Belief of Symbolism to be a questionable

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index of Muslim open-mindedness. Iranian university students and Islamic seminarians ( $N = 296$ ) responded to Post-Critical Beliefs, Religious Reflection, Religious Orientation, Quest, Rumination-Reflection, and Satisfaction with Life measures. The “openness” of Symbolism correlated negatively with the “openness” of Intellect Oriented Reflection. Other relationships broadly documented Muslim potentials for openness. Evidence of open-mindedness also appeared in contrasts between university students and Islamic seminarians. These results argued against Symbolism as a culturally sensitive measure of Muslim open-mindedness and supported the claim of the Religious Openness Hypothesis that traditional religions have at least some potentials for openness that can be obscured by contextual influences.

### Keywords

post-critical beliefs – Islamic religious reflection – religious openness hypothesis – Islam – rumination-reflection – Iran

### Introduction

Western research consistently identifies conservative religiousness as narrow and rigid in its cognitive and social implications. An Intrinsic Religious Orientation, for example, makes religion the master motive in life (Gorsuch & McPherson, 1989), but its linkages with orthodoxy and other measures have led to interpretations of this motivation as closed-minded, especially in comparison to the open-ended existential search for religious meaning operationalized by Quest (Batson, Schoenrade, & Ventis, 1993). Similarly, Post-Critical Beliefs include a Transcendence factor that records the embrace of some traditional vision of God and a Symbolism factor that rejects literalistic interpretations of religious texts (e.g., Duriez, Soenens, & Hutsebaut, 2005). Transcendence points toward more closed and Symbolism toward more open forms of functioning. The Religious Reflection Scale includes Faith and Intellect Oriented Reflection factors (Watson, Chen, & Hood, 2011). In largely Christian American samples, negative relationships between these factors once again suggest an incompatibility between a life of faith and a life of the mind. Along with findings for other constructs like Religious Fundamentalism (Altemeyer & Hunsberger, 1992) and Truth of Texts and Teachings (Streib, Hood & Klein, 2010), the consistent finding has been that traditional religiousness is narrow-minded.

### *Religious Openness Hypothesis*

Very different possibilities appear with an expansion of the research perspective. Studies outside the West increasingly support the argument that traditional religions have at least some potentials for openness that can be obscured by contextual factors (e.g., Watson, Chen, Ghorbani, & Vartanian, 2015). According to a Religious Openness Hypothesis, conservatively religious individuals in the West display a defensive closed-mindedness in response to what they perceive as a culture war waged by secularism against faith (Watson, Chen, Morris, & Stephenson, 2015; Watson, Chen, & Morris, in press). Outside the West, secularism is less influential, defensiveness less necessary, and traditional religiousness consequently more open.

First hints of this possibility came with an examination of Post-Critical Beliefs in Iran (Ghorbani, Watson, Shamohammadi, & Cunningham, 2009). Transcendence displayed an inverse association with Symbolism, and Transcendence also tended to correlate positively and Symbolism negatively with religiousness. In parallel with findings in the West, therefore, these data suggested an incompatibility between Muslim faith and Muslim openness. Complexities, nevertheless, appeared. Transcendence more likely predicted better and Symbolism poorer mental health. More “closed” religious perspectives, therefore, seemed predictive of better psychological functioning whereas more “open” perspectives seemed to be maladjusted.

Even more striking were interactions between the two Post-Critical Beliefs that were used to assess the four religious attitudes described by Wulff (1997). Literal Affirmation appears with high Transcendence interacting with low Symbolism to essentially represent fundamentalism. Low scores on both Post-Critical Beliefs record a Literal Disaffirmation that pursues a deconstructive rejection of all so-called revelation. Reductive Interpretation combines high Symbolism with low Transcendence to discern the true secular meaning within religious texts. Restorative Interpretation pursues a renaissance in faith through efforts to unite high Transcendence with high Symbolism. Most noteworthy in the Iranian data was the discovery that Literal Affirmation tended to predict the highest levels of Openness to Experience, Need for Cognition, Attributional Complexity, and the openness to self-experience recorded by Integrative Self-Knowledge. In short, fundamentalist attitudes suggested more open rather than more closed psychological functioning.

Even stronger evidence of conservative religious openness appeared in later findings for Religious Reflection factors. Underlying development of this scale were complaints that Quest was invalid an index of the Muslim search for meaning (Dover, Miner, & Dowson, 2007). Quest, for instance, places high value on doubt as an element of religious openness, but such doubt seems

inimical to sincere Muslim commitments. The Religious Reflection Scale assumes, instead, that the traditionally religious search for meaning necessarily appears in an intellect confidently framed within faith. In support of this idea, Faith and Intellect Oriented Religious Reflection correlate positively in Muslims from Iran (Ghorbani, Watson, Chen, & Dover, 2013), Malaysia (Tekke, Watson, İsmail, & Chen, 2015), and Pakistan (Khan, Watson, & Chen, 2017). The same relationship also appears with Hindus in India (Kamble, Watson, Marigouadar, & Chen, 2014). Contrasts of these positive correlations outside the West with the negative associations observed with Americans cannot be attributed to Muslim and Hindu differences with Christians, because Faith and Intellect Oriented Reflection correlate positively in Christians living in Iran (Watson, Ghorbani, Vartanian, & Chen, 2015).

In less secularized non-Western cultural contexts, therefore, traditional religiousness has at least some potential to predict greater rather than poorer psychological openness. Studies using the Post-Critical Beliefs and Religious Reflection scales were the first to suggest this possibility, but research using other measures continues to confirm the hypothesis. Truth of Texts and Teachings predicts the greater openness of Muslims in Iran (Ghorbani, Watson, Amirbeigi, & Chen, 2016) and Malaysia (Tekke et al., 2015) and of Hindus in India (Kamble et al., 2014). Religious Fundamentalism also predicts more open Hindu perspectives in India (Kamble, Watson, Duggi, & Chen, in press).

### *Present Project*

Contradictory implications appear in this non-Western research in that Transcendence and Symbolism have correlated negatively in Iran whereas Faith and Intellect Oriented Reflection have correlated positively. The former finding points toward Muslim closed-mindedness whereas the latter suggests greater openness. The initiating purpose of this study was to evaluate this paradox by conducting a first simultaneous analysis of the Post-Critical Belief and Religious Reflection measures in Iran. The central hypothesis was that this contradiction reveals Symbolism to be like Quest in serving as a culturally questionable operationalization of Muslim open-mindedness.

As an at least somewhat anti-Muslim expression of open-mindedness, Symbolism should display at least some tendency to predict lower levels of the openness associated with Intellect Oriented Reflection. At the same time, however, the two constructs will not be wholly incompatible. One Intellect Oriented item says, for example, "Studying nature and the universe would reveal treasures of knowledge and truth." This statement presumably would not be incompatible with the implications of the Symbolism claim that "God grows together with the history of humanity and therefore is changeable."

Also noteworthy is that one item loading on Symbolism in Iran says, "I think that Qur'anic stories should be taken literally, as they are written." Within the context of other items loading on this factor, this statement seemed to reflect a demand that the Qur'an have simplistic meanings that then could be dismissed more easily. At the same time, however, conservative Muslim commitments would presumably encourage agreement with this statement. Some Symbolism items should, therefore, work against the observation of a negative relationship with Intellect Oriented Reflection.

On the other hand, Symbolism items also say, for instance, "Science has made a religious understanding of life superfluous." Intellect Oriented Reflection appears, instead, in such claims as, "I believe as humans we should use our minds to explore all fields of thought from science to metaphysics." The suggestion, therefore, is that Symbolism is more closed and Intellect Oriented Reflection more open to nonscientific perspectives. Numerous other Symbolism items suggest the same thing (e.g., "Faith turns out to be an illusion when one is confronted with the harshness of life," and "The world of Qur'anic stories is so far removed from us, that it has little relevance). It is this type of contrast that should result in at least some tendency of Symbolism to predict lower Intellect Oriented Reflection.

### *Hypotheses*

This study simultaneously examined the Post-Critical Beliefs and Religious Reflection factors to test six sets of predictions framed within the Religious Openness Hypothesis.

First, and most importantly, Symbolism should display at least some tendency to predict lower Intellect Oriented Reflection and should also correlate negatively with Transcendence and Faith Oriented Reflection. Transcendence, Faith Oriented Reflection, and Intellect Oriented Reflection should also correlate positively.

Second, Symbolism should predict lower Muslim religiousness. The Extrinsic Personal Religious Orientation involves a use of religion to achieve a sense of well-being, and like the Intrinsic Orientation, records Muslim religious adjustment. An Extrinsic Social Orientation reflects a use of religion for social gain and appears to be weak and ambiguous in Muslim samples (Ghorbani, Watson, & Khan, 2007). Positive adjustment implications also appear with a Muslim Experiential Religiousness (MER) measure of Muslim spirituality (Ghorbani, Watson, Geranmayepour, & Chen, 2014). The specific hypothesis, therefore, was that Symbolism would correlate negatively with MER and with the Intrinsic and Extrinsic Personal Orientations. No predictions seemed obvious for the ambiguous Extrinsic Social Orientation.

Third, Symbolism should correlate positively with Quest. Like Symbolism, Quest should also predict lower levels of Muslim religious adjustment.

Fourth, Symbolism should have at least some problematic psychological implications in relationships with Satisfaction with Life (Diener, Emmons, Larsen, & Griffin 1985) and with Rumination and Reflection (Trapnell, & Campbell, 1999). Especially interesting was the Reflection measure, which records a form of self-experience that correlates positively with Openness to Experience. Rumination predicts greater Neuroticism. Evidence challenging Symbolism as an index of Muslim psychological health would appear in negative relationships with Reflection and Satisfaction with Life and in positive correlations with Rumination.

Fifth, at least some interactions should associate the lower Symbolism and higher Transcendence of a more fundamentalist Literal Affirmation with greater adjustment.

Finally, Islamic seminarians should score lower on the presumably anti-Muslim Symbolism measure than students pursuing non-religious careers in a state university. This prediction rested upon the further assumption that seminarians would display generally stronger Muslim religiousness while also displaying no relative psychological liabilities that might be consequent to their rejection of Symbolism.

## Method

### *Participants*

Participants included 269 Iranian students enrolled in a state university in Tehran ( $N = 149$ ) or in an Islamic seminary in Tehran or Qom ( $N = 120$ ). Average age of these 159 men and 110 women was 23.2 years,  $SD = 5.9$ .

### *Measures*

All psychological scales appeared in a single questionnaire booklet. Initial development of MER occurred in Persian. Translation of all other instruments from English into Persian occurred prior to previous projects that documented their validity within the Iranian cultural context. Unless otherwise noted, reactions to all questionnaire items occurred along a 0 to 4 Likert scale. Statistical procedures expressed responding to each instrument in terms of the average response per item. Measures appeared in the questionnaire booklet in the order of their description below. This description presents the internal reliability,  $M$ , and  $SD$  data for all scales in the present sample.

**Muslim Experiential Religiousness (MER).** Fifteen statements expressed MER as an explicitly Muslim form of spirituality. Defining this spirituality was a submission to, a love of, and personal efforts to get closer to God (Ghorbani et al., 2014;  $\alpha = .93$ ,  $M = 3.16$ ,  $SD = 0.76$ ). One MER item said, for example, “Experiences of submitting to God cause me to feel more vital and motivated.”

**Post-Critical Beliefs.** Measurement of Post-Critical Beliefs involved the use of 16 out of 18 original items (Duriez et al., 2005). A previous study (Ghorbani, Watson, Shamohammadi, & Cunningham, 2009) used these statements to identify a two-factor structure in Iran defined by a 6-item Transcendence ( $\alpha = .65$ ,  $M = 2.56$ ,  $SD = 0.75$ ) and a 10-item Symbolism ( $\alpha = .83$ ,  $M = 1.28$ ,  $SD = 0.86$ ) scale. Indicative of Transcendence was the belief, “God has been defined for once and for all and therefore is immutable.” Illustrative of Symbolism was the claim, “Each statement about God is a result of the time in which it was made.”

**Islamic Religious Reflection.** Islamic Religious Reflection included Faith and Intellect Oriented Reflection factors derived from the Dover et al. (2007) scale (Ghorbani et al., 2013). The printing of Intellect Oriented Reflection omitted a critical clarifying final phrase from one statement (i.e., “The Qur’an does not reveal all the essential truth or facts about life and God and that is why God has blessed us with our intellect”); so, its elimination resulted in a final 4-item measure that said, for example, “I believe as humans we should use our minds to explore all fields of thought from science to metaphysics” ( $\alpha = .56$ ,  $M = 3.08$ ,  $SD = 0.70$ ). Faith Oriented Reflection ( $\alpha = .79$ ,  $M = 3.02$ ,  $SD = 0.75$ ) included 7 statements. A representative item asserted, “Faith in God is what nourishes the intellect and makes the intellectual life prosperous and productive.”

**Quest.** The Quest Scale used a 0 to 3 Likert response format (Batson et al., 1993). Removal of one item with a negative item-to-total correlation produced a more internally reliable final 11-statement measure ( $\alpha = .70$ ,  $M = 1.50$ ,  $SD = 0.51$ ). This eliminated item was the reverse scored claim, “I do not expect my religious convictions to change in the next few years.” Indicative of Quest was the self-report, “For me, doubting is an important part of what it means to be religious.”

**Rumination and Reflection.** Trapnell and Campbell (1999) measures included a 16-item Rumination ( $\alpha = .80$ ,  $M = 2.57$ ,  $SD = 0.59$ ) and an 8-item Reflection ( $\alpha = .66$ ,  $M = 2.61$ ,  $SD = 0.69$ ) scale. “I often find myself reevaluating something I’ve done” was typical of self-reported Rumination. Reflection appeared in such claims as “I’m very self-inquisitive by nature.”

**Satisfaction with Life.** Five items made up Diener et al. (1985) Satisfaction with Life Scale ( $\alpha = .84$ ,  $M = 2.23$ ,  $SD = 0.96$ ) that said, for example, “I am satisfied with my life.”

**Religious Orientations.** The Gorsuch and McPherson (1989) Religious Orientations Scales recorded Intrinsic (8 items:  $\alpha = .82$ ,  $M = 2.89$ ,  $SD = 0.82$ ), Extrinsic Personal (3 items:  $\alpha = .68$ ,  $M = 2.86$ ,  $SD = 0.91$ ), and Extrinsic Social (3 items:  $\alpha = .63$ ,  $M = 1.30$ ,  $SD = 1.01$ ) reasons for being religious. According to Gorsuch and McPherson, the most representative Intrinsic Orientation item says, "My whole approach to life is based on my religion." "What religion offers me most is comfort in times of trouble and sorrow" best exemplifies the Extrinsic Personal Orientation. Most indicative of the Extrinsic Social Orientation is the assertion that "I go to activities associated with my religion because I enjoy seeing people I know there." In Iran, the phrase "activities associated with my religion" replaced "church."

**Procedure.** Research procedures conformed with regulations governing the conduct of ethical research at each institution. Student groups of varying sizes responded to the questionnaire booklet in a classroom setting. Participation in the project was voluntary and confidential.

## Results

### *Preliminary Analyses*

Women scored higher than men on the Extrinsic Personal (.18) and lower on the Extrinsic Social (-.22) and Quest (-.20,  $p < .01$ ) orientations. The university student group of 79 men and 70 women also had a relatively higher percentage of women than the seminarian group, which included 80 males and 40 females,  $\chi^2(1) = 5.12$ ,  $p < .05$ . Subsequent statistical procedures, therefore, controlled for gender.

### *Group Comparisons*

In a multivariate analysis of covariance that controlled for gender, university and seminary students differed in their religious and psychological functioning, Wilks' Lambda = .695,  $F(12, 251) = 9.16$ ,  $p < .001$  (see Table 1). Seminarians were higher in their Faith Oriented Reflection, Intrinsic and Extrinsic Social Orientations, MER, and Satisfaction with Life. Seminarians also scored lower on Symbolism, Intellect Oriented Reflection, and Transcendence.

Group differences also appeared in the covariance among measures, Box's  $M = 250.58$ ,  $F(78, 193216.298) = 3.06$ ,  $p < .001$ . Most important were partial correlations revealing a  $-.26$ ,  $p < .01$ , linkage between Transcendence and Symbolism in university students that was  $+.42$ ,  $p < .001$ , in seminarians. Opposite relationships in two variables at the focus of this investigation meant that subsequent statistical procedures needed to examine each student group separately.



TABLE 1 *Mean (M) and Standard Error of the Mean (SEM) for comparisons between university and Islamic seminary students*

Scale	University		Seminary		F
	M	SEM	M	SEM	
Transcendence	2.67	0.06	2.45	0.07	5.56*
Symbolism	1.44	0.07	1.09	0.08	10.82***
Faith Oriented Reflection	2.84	0.06	3.23	0.07	18.57***
Intellect Oriented Reflection	3.19	0.06	2.94	0.07	8.13**
Intrinsic Orientation	2.62	0.06	3.23	0.07	40.55***
Extrinsic Personal Orientation	2.79	0.07	2.95	0.08	2.08
Extrinsic Social Orientation	1.10	0.08	1.56	0.09	14.81***
Quest	1.51	0.04	1.47	0.05	0.42
MER	2.95	0.06	3.40	0.07	25.17***
Rumination	2.58	0.05	2.56	0.06	0.09
Reflection	2.64	0.06	2.55	0.06	1.13
Satisfaction with Life	2.06	0.08	2.46	0.09	12.03**

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

Note: MANCOVA procedures controlled for gender. MER is Muslim Experiential Religiosity.

### *Relationship among Measures Clarifying Post-Critical Beliefs*

Table 2 presents partial correlations among the scales used to clarify the two Post-Critical Beliefs. Findings for seminarians appear above the diagonal with data for university students below. Most importantly, Faith and Intellect Oriented Reflection correlated positively in both samples. Faith Oriented Reflection also covaried directly with the Intrinsic, Extrinsic Personal, and MER measures. Only university students displayed linkages of Faith Oriented Reflection with a greater Extrinsic Social Orientation and lower Quest. Only in seminarians did Faith Oriented Reflection predict higher Rumination and Reflection. Across the two groups, parallel results for Intellect Oriented Reflection appeared only in its direct relationships with Rumination and Reflection. Intellect Oriented Reflection correlated positively with the Extrinsic Personal Orientation and MER in university students and with the Extrinsic Social Orientation and Quest in seminarians.

TABLE 2 *Partial correlations for measures clarifying post-critical beliefs in seminarians (above diagonal) and university students (below diagonal)*

Measures	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Faith Oriented Reflection	—	.36***	.35***	.21*	.01	.03	.23*	.32***	.20*	.03
2. Intellect Oriented Reflection	.41***	—	.11	.00	.19*	.21*	.14	.37***	.23*	.12
3. Intrinsic Religious Orientation	.69***	.12	—	.24*	-.20*	-.40***	.18*	.08	.65***	.10
4. Extrinsic Personal Orientation	.64***	.28**	.57***	—	.14	.14	.23*	.23*	.11	.08
5. Extrinsic Social Orientation	.26**	.06	.21**	.31***	—	.19*	.19*	.25**	-.19*	.13
6. Quest	-.27**	.12	-.43***	-.21**	-.07	—	.19*	.36***	-.32**	.24*
7. MER	.72***	.32***	.68***	.74***	.25**	-.21*	—	.26**	.03	.36***
8. Rumination	.11	.27**	.08	.23**	-.11	.28**	.19*	—	.10	.17
9. Reflection	.09	.21*	.17*	.12	-.33***	.14	.12	.62***	—	.03
10. Satisfaction with Life	.15	.03	.11	.09	.13	-.08	.12	-.10	-.10	—

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

Note: Samples included 120 seminarians and 149 university students. Partial correlations controlled for gender. MER is Muslim Experiential Religiosity.

Only two other partial correlations were opposite in sign across the two groups. The Intrinsic Religious Orientation correlated positively with the Extrinsic Social Orientation in university students, but negatively in seminarians. In addition, relationships of MER with Quest were positive in seminarians, but negative in university students.

Numerous other outcomes were parallel across both groups. The Intrinsic Orientation predicted lower Quest and higher Extrinsic Personal, MER, and Reflection scores. The Extrinsic Personal Orientation correlated positively with MER and Rumination, and the Extrinsic Social Orientation displayed linkages

that were positive with MER and negative with Reflection. Quest and MER correlated positively with Rumination.

Other significant findings occurred in one group only. In university students, the Extrinsic Personal Orientation correlated positively with the Extrinsic Social Orientation and negatively with Quest. A robust association also appeared between Rumination and Reflection. In seminarians, the Extrinsic Social Orientation exhibited direct connections with Quest and Rumination, and Quest correlated negatively with Reflection and positively with Satisfaction with Life. MER and Satisfaction with Life also covaried directly.

*Post-Critical Beliefs Relationships*

Transcendence and Symbolism partial correlations with other variables appear in Table 3. One-tailed tests of significance examined Post-Critical Belief relationships with Religious Reflection given the directionality of these hypotheses and the presumed religious ambiguity built into the Symbolism measure. In both groups, Transcendence correlated positively with Faith Oriented Reflection, Intellect Oriented Reflection, and the Extrinsic Personal

TABLE 3 *Partial correlations of transcendence and symbolism with other measures in university and islamic seminary students*

Scale	Transcendence		Symbolism	
	University	Seminary	University	Seminary
Faith Oriented Reflection	.63***	.31***	-.50***	-.20*
Intellect Oriented Reflection	.39***	.16*	-.15*	-.16*
Intrinsic Orientation	.43***	-.17	-.52***	-.75***
Extrinsic Personal Orientation	.53***	.26**	-.25***	-.17
Extrinsic Social Orientation	.20*	.13	-.04	.19*
Quest	-.07	.11	.30***	.27**
Muslim Experiential Religiousness	.58***	-.04	-.39***	-.12
Rumination	.18*	.15	.11	.05
Reflection	.09	-.24**	-.16	-.67***
Satisfaction with Life	.04	-.26**	.05	.03

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

Note: Partial correlations controlled for gender. Given the directional hypotheses involved, one-tailed tests of significance evaluated the relationships of Post-Critical Beliefs with the Religious Reflection measures.

Orientation. Only in university students did Transcendence predict higher levels of the Intrinsic and Extrinsic Social Orientations, MER, and Rumination. Inverse linkages of Transcendence with Reflection and Satisfaction with Life only appeared in seminarians.

Symbolism in both groups correlated positively with Quest and negatively with Faith Oriented Reflection, Intellect Oriented Reflection, and the Intrinsic Religious Orientation. In university students, Symbolism displayed inverse linkages with the Extrinsic Personal Orientation and MER. Relationships that were positive with the Extrinsic Social Orientation and negative with Reflection appeared only in seminarians.

### *Moderation Analyses*

Prior to moderation analyses, standardization of Transcendence and Symbolism addressed the problem of multi-collinearity (Aiken & West, 1991). The first step of these multiple regression procedures controlled for gender. Table 4 focuses on the more conceptually noteworthy second and third steps. The second step used Transcendence and Symbolism as simultaneous predictors of all other measures. In both groups, Transcendence contributed directly and Symbolism inversely to the prediction of Faith Oriented Reflection and the Intrinsic Religious Orientation. Symbolism was also a consistent positive predictor of Quest. Transcendence displayed direct associations with Intellect Oriented Reflection and the Extrinsic Personal Orientation in both groups, but the inverse connections of Symbolism with these two measures appeared only in seminarians. Only in university students did Transcendence predict greater and Symbolism lower MER. Transcendence also displayed direct associations with the Extrinsic Social Orientation and with Rumination in university students. Only in seminarians did inverse relationships appear between Symbolism and Reflection and between Transcendence and Satisfaction with Life.

Significant interactions between Transcendence and Symbolism on the third step identified moderation effects. As Table 4 makes clear, three significant outcomes appeared in each group. Transcendence and Symbolism interacted to predict Faith Oriented Reflection, MER, and Reflection in university students. In seminarians, interactions appeared with MER, Rumination, and Satisfaction with Life.

Figure 1 depicts these moderation effects. The top row presents the university student results. Positive linkages of Transcendence with Faith Oriented Reflection and MER were stronger at higher levels of Symbolism. Transcendence also displayed a positive relationship with Reflection only at lower levels of Symbolism. Most importantly with regards to the Wulff (1997)

TABLE 4 *Transcendence (T), Symbolism (S), and their interaction (T x S) as predictors of other measures*

Scale	University students					Seminarists				
	Step 2			Step 3		Step 2			Step 3	
	$\Delta R^2$	T $\beta$	S $\beta$	$\Delta R^2$	T x S $\beta$	$\Delta R^2$	T $\beta$	S $\beta$	$\Delta R^2$	T x S $\beta$
Faith Oriented Reflection	.52***	.54***	-.37***	.04***	.24***	.23**	.47***	-.41***	.02	.15
Intellect Oriented Reflection	.26***	.45***	-.14	.01	.09	.21***	.22*	-.50***	.02	.16
Intrinsic Orientation	.34***	.31***	-.43***	.02	.15	.58***	.15*	-.81**	.00	.07
Extrinsic Personal Orientation	.27***	.48***	-.12	.02	.15	.13***	.35***	-.31**	.00	-.05
Extrinsic Social Orientation	.04	.20*	.02	.02	.14	.03	.08	.13	.00	.07
Quest	.09**	.01	.31***	.00	.06	.06*	.00	.25**	.02	.15
MER	.39***	.51***	-.26***	.07***	.32***	.01	-.01	-.11	.13*	.40***
Rumination	.06*	.23**	.16	.02	-.15	.03	-.17	-.03	.09**	.33***
Reflection	.03	.05	-.15	.04	-.23*	.44***	.02	-.67***	.00	-.01
Satisfaction with Life	.01	.06	.06	.00	-.06	.06*	-.21*	-.06	.06**	.27**

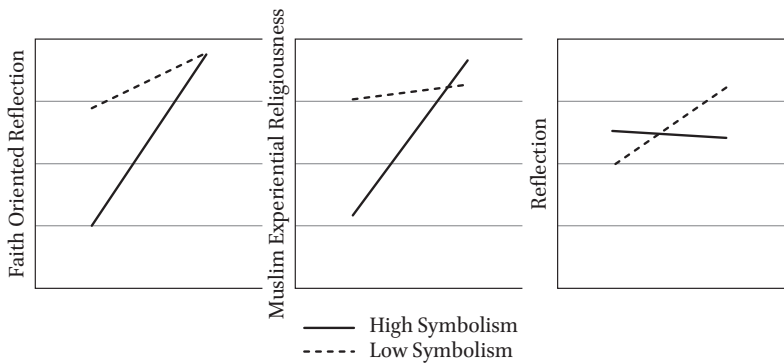
\* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$

Note: The first step of the multiple regression controlling for gender are not presented to focus on the conceptually noteworthy second and third steps. MER is Muslim Experiential Religiousness.

religious attitudes, Restorative Interpretation (high Transcendence and high Symbolism) and Literal Affirmation (high Transcendence and low Symbolism) both defined higher levels of Faith Oriented Reflection and MER. Literal Affirmation also displayed the greatest Reflection.

Seminarist moderation effects appear in the bottom row of graphs of Figure 1. Once again, Transcendence predicted greater MER at higher levels of Symbolism; but in seminarists, this association tended to be negative at lower levels of Symbolism. The positive Transcendence relationship with Rumination

## University Student Moderation Effects



## Islamic Seminarian Moderation Effect

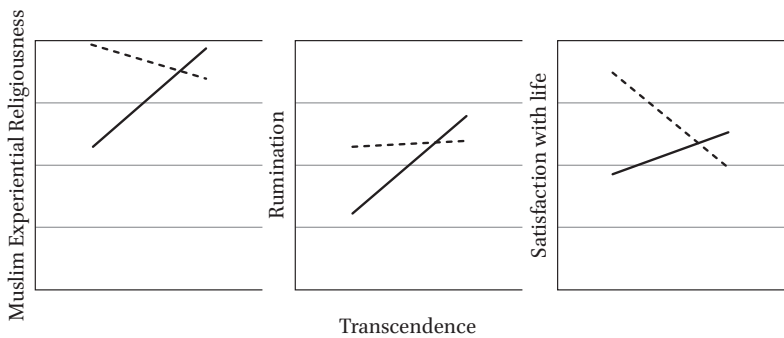


FIGURE 1 *Transcendence appears along each X-axis. Solid lines indicate high symbolism (one SD above the mean) while dotted lines represent low symbolism (one SD below the mean). Responding to all measures occurred along a 0 to 4 Likert scale.*

was stronger when Symbolism was high. Transcendence predicted greater Satisfaction with Life at higher Symbolism levels, but an opposite association appeared when Symbolism was low. Among the religious attitudes, Reductive Interpretation (low Transcendence and high Symbolism) consistently defined or helped define the lowest levels of MER, Rumination, and Satisfaction with Life. Associated with Literal Disaffirmation (low Transcendence and low Symbolism) was the highest Satisfaction with Life.

## Discussion

The Religious Openness Hypothesis most broadly argues that traditional religions have at least some potentials for openness that become more obvious in contexts less defined by a religiously perceived culture war of secularism against

faith. Faith and Intellect Oriented Reflection, for example, correlate negatively in the United States, but positively in Muslims, Hindus, and Christians outside the West (Ghorbani et al., 2013; Khan et al., 2017; Kamble et al. 2014; Tekke et al., 2015; Watson, Ghorbani, Vartanian, & Chen, 2015). Faith and intellect, therefore, seem incompatible in the West, but compatible in other cultural contexts. On the other hand, the Post-Critical Beliefs of Transcendence and Symbolism have correlated negatively in Iran, suggesting a closing of the non-Western Muslim mind. The hypothesis of this project was that this evidence of Muslim closed-mindedness primarily occurs because Symbolism, like Quest, fails to clearly capture Muslim forms of religious openness and commitment. Expected and unexpected findings confirmed this prediction and supported the Religious Openness Hypothesis more generally.

### *Expected Findings*

Most basically, the putative open-mindedness of Symbolism correlated negatively rather than positively with the open-mindedness of Intellect Oriented Reflection. This inverse linkage was not robust, but such an outcome had been expected given overlap in the implications of some items across the two instruments. Inverse relationships with Faith Oriented Reflection and Transcendence further documented an incompatibility of Symbolism with explicitly Muslim perspectives, as did at least some negative associations of Symbolism with MER and the Intrinsic and Extrinsic Personal Religious Orientations.

Quest was the only index of religiousness to display a direct linkage with Symbolism in both university students and seminarians. Quest, however, correlated positively with Rumination and was incompatible with or irrelevant to religious commitments in university students. In seminarians, Quest had both positive and negative religious implications. Perhaps most importantly, however, Quest correlated positively with the neuroticism of Rumination and negatively with the openness of Reflection.

Seminarians scored lower than university students on Symbolism (and Intellect Oriented Reflection as well) while also displaying higher levels of Faith Oriented Reflection, the Intrinsic Religious Orientation, MER, and Satisfaction with Life. This lower level of Symbolism, therefore, occurred within the context of better religious and psychological adjustment. Overall, patterns of all these data supported the conclusion that Symbolism, along with Quest, failed to clearly capture Muslim forms of religious openness and commitment.

Other findings confirmed compatibilities between Muslim religious commitment and openness. A direct relationship of the Intrinsic Orientation with the Reflection Scale appeared in both student groups, but was especially strong in seminarians. In one or both samples, Faith and Intellect Oriented Reflection also predicted greater Reflection. In university students, evidence for openness

appeared in findings that Restorative Interpretation and Literal Affirmation both defined higher Faith Oriented Reflection and MER. The fundamentalism of Literal Affirmation also exhibited the highest levels of Reflection. In seminarians, tendencies toward higher MER also appeared for Restorative Affirmation, Literal Affirmation, and Literal Disaffirmation.

With few exceptions, relationships among religious constructs conformed with expectations. Some contrasts appeared across the two student groups, but Religious Reflection factors, Intrinsic and Extrinsic Personal Orientations, and MER were largely compatible. The Extrinsic Social Orientation once again proved to be ambiguous. This orientation correlated positively with religious variables in both groups, but also exhibited an inverse tie with the Intrinsic Orientation in seminarians. Extrinsic Social scores also predicted lower Reflection in both groups and greater Rumination in seminarians. Given these data, the positive correlation of the Extrinsic Social Orientation with Quest in seminarians perhaps identified both scales as ambiguous in Muslim contexts.

### *Unexpected Findings*

Perhaps most surprising and important in confirming Muslim potentials for openness were correlations between the two Post-Critical Beliefs. This relationship was, as expected, negative for university students, but unexpectedly positive for seminarians. This apparent seminarian ability to integrate Transcendence with Symbolism was perhaps the most straightforward demonstration of Restorative Interpretation as a Muslim potential.

This positive relationship, nevertheless, occurred within the context of another unexpected finding that seminarians also scored lower rather than higher on Transcendence. Evidence for other measures demonstrated that this Transcendence effect occurred within the context of the greater overall religiousness of seminarians. The possibility, therefore, exists that Transcendence like Symbolism has limitations as a sensitive index of Muslim beliefs. Moreover, the generally lower Post-Critical Beliefs of seminarians may suggest that their positive covariance occurred as a nuanced interpretative potential that failed to reflect more dominant Iranian Muslim perspectives.

Two other unexpected Post-Critical Beliefs findings had important implications. In seminarians, Restorative Interpretation defined the higher neuroticism of Rumination. This outcome contrasted with the observation in university students that the fundamentalism of Literal Affirmation described the higher openness of Reflection. In the West, the Restorative Interpretation outcome would presumably be the expectation for Literal Affirmation and vice versa. Also surprising was the greater Satisfaction with Life associated with



seminarian Literal Disaffirmation. How could seminarian tendencies toward Literal Disaffirmation predict greater rather than poorer life satisfaction in a formally religious society like Iran? At a very general level, these findings support the conclusion that Western conceptualizations of Post-Critical Beliefs and of traditional religiousness may not generalize in a straightforward manner to other cultural contexts.

The Religious Openness Hypothesis most basically argues that traditional religions have potentials for openness. That does not mean, however, that such openness is unlimited or that traditional commitments are without liabilities. Unexpected findings for Rumination made that clear. Intellect Oriented Reflection predicted greater Rumination in both samples, as did Faith Oriented Reflections in seminarians. Positive correlations also appeared consistently between the Extrinsic Personal Orientation and Rumination. The overall findings of this study, therefore, suggested that Muslim openness could also be accompanied by a neuroticism in Muslim self-understandings.

### *Limitations*

As with any investigation, limitations necessitate interpretative caution. Six cautions may be especially relevant. First, findings for Iranian university and seminary students may not generalize to other Muslims. Perhaps most importantly, the two Post-Critical Beliefs need to be examined in other Iranians and in completely different Muslim cultural contexts.

In a second related concern, this limited focus on students suggests at least four additional considerations. First, cross-cultural evidence relevant to the Religious Openness Hypothesis rests upon data from such samples. Correlations between Faith and Intellect Oriented Reflection are negative in Western university students, but positive outside the West. Further evaluations of this contrast are important in determining, for example, just how open religion can be outside the West. Second, the Religious Openness Hypothesis only argues that religions have potentials for openness. University students presumably display an above average commitment to learning that requires cognitive flexibility. Analysis of students, therefore, makes sense, because they seem especially likely to be more open. Third, at least some non-student Iranian data already support the Religious Openness Hypothesis. Members of the Armenian Apostolic Orthodox Christian Church in Tehran also display a positive correlation between Faith and Intellect Oriented Reflection (Watson, Ghorbani, Vartanian, & Chen, 2015). Fourth and finally, hypotheses based upon the Religious Openness Hypotheses predict complexities within a single cultural context (e.g., Watson, Chen, Morris, & Stephenson, 2015). More “conservative” Muslim communities should display more closed religious

perspectives, whereas more “liberal” Christian denominations in the West should be more open. In short, future research into the Religious Openness Hypothesis should expand the analysis of both student and non-student populations.

Third, research participants were volunteers. The act of volunteering might in and of itself reveal greater openness. Students who did not volunteer could have been more defensive and thus more closed in their religiousness. Once again, however, the Religious Openness Hypothesis merely argues that only some religious individuals (volunteers perhaps) have potentials for openness, whereas others may not, with non-volunteers being a possibility.

Fourth, religious individuals may describe themselves (Jones & Elliott, 2017) and their religion (Abu-Raiya, 2017) in more interpersonally desirable terms. Positive correlations among self-report measures of religious commitment in this and in previous Muslim (e.g., Demmrich, Atmaca, & Dinç, 2017) investigations undoubtedly reflect such social and theological desirability effects. A recent finding that Iranian Islamic seminarians were less likely than university students to respond to a statement indicating even the possibility of being “neither religious or spiritual” seems to confirm the existence of such influences (Ghorbani, Watson, Kashanaki, & Chen, 2017).

On the other hand, this recent Iranian investigation also found that the 19% of university students who described themselves as “neither religious nor spiritual” was slightly higher than the 17% who self-identified as “both religious and spiritual.” Perhaps even more surprising was the further observation that the 53% of “spiritual but not religious” type was much higher than the 11% of the “religious but not spiritual” type (Ghorbani et al., 2017). Social and theological desirability biases, therefore, were not so overwhelming as to completely obscure individual differences in religion and spirituality in Iran.

More generally, evaluations of socially and theologically desirable responding may need to avoid an overly facile assumption that such response sets merely reflect a methodological nuisance that obscures “true” relationships. Social desirability scales record a substantive psychological trait (e.g., McCrae & Costa, 1983) relevant to interpersonally oriented self-control (Uziel, 2010) and religious norms (Watson, Morris, Foster, & Hood, 1986). These substantive psychological processes may also be sensitive to the desirable sociality of religious and other forms of communal life that Durkheim (1897/1951) identified as a buffer against a suicidality associated with excessive individualism and anomie (Watson, Milliron, & Morris, 1995). In short, studies into social and theological desirability effects as both methodological nuisance and substantive process are an obviously important research agenda for the future.

Fifth, internal reliabilities of some measures were lower than .70, including Transcendence, Intellect Oriented Reflection, the Reflection Scale, and the two Extrinsic Religious Orientations. Some of these problems apparently reflected characteristics of these particular research participants because higher internal reliabilities have at least sometimes been observed for all these scales with previous Iranian samples (e.g., Ghorbani, Watson, & Weathington, 2009; Ghorbani et al., 2013; Ghorbani et al., 2017). Among other things, however, lower internal reliabilities might also imply that these constructs include a multidimensional complexity that needs to be teased out in future Iranian investigations. More robust and clearer findings might appear with the development of psychometrically sounder instruments. In short, findings for especially these measures require replication and extension in future studies.

Sixth and finally, all findings were correlational, and correlations can support no definitive conclusions about causality. Other research designs will need to explore issues of causality.

### Conclusion

Central to the Religious Openness Hypotheses is the claim that traditional religions have at least some potentials for openness. Even in the West, religious openness has appeared in traditions of thought that have long integrated Christian faith with reason (e.g., MacIntyre, 1989, 1990). With the Enlightenment, however, the West began the social construction of a “rational” secularism in opposition to a supposedly “non-rational” religion (e.g., Asad, 2003). The Religious Openness Hypothesis argues that religious potentials for openness in the West today can be obscured by a religiously perceived culture war of this secular “reason” against faith. In the United States, for example, procedures that control for a need to defend religion against secularism reveal complexities in the possibilities that do in fact exist for Western Christian openness (e.g., Watson, Chen, Morris, & Stephenson, 2015; Watson, Chen, & Morris, in press).

Iran is an Islamic society in which secularism exerts little or no formal influence on the structure of daily social life. The openness of Muslims in the present study, therefore, supplements previous non-Western data in supporting the Religious Orientation Hypothesis. This is so because religious openness seems to become more obvious as secularism appears to be less influential. Most broadly, such findings suggest that influential Western interpretative frameworks may have limitations in attempts to understand basic concepts

like orthodoxy, religious tradition, and fundamentalism. Further tests of the Religious Openness Hypothesis may, therefore, be useful in encouraging the development of a more historically and cross-culturally sensitive psychology of traditional religiousness.

## References

- Abu-Raiya, H. (2017). A critique from within: Some important research issues that psychologists of religion and spirituality should further work on. *Mental Health, Religion & Culture*, 20, 544-551. doi:10.1080/13674676.2017.1377945.
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks: SAGE Publications.
- Altemeyer, B., & Hunsberger, B. (1992). Authoritarianism, religious fundamentalism, quest and prejudice. *The International Journal for the Psychology of Religion*, 2, 113-133. doi:10.1207/s15327582ijpro202\_5.
- Asad, T. *Formations of the secular: Christianity, Islam, modernity*. Stanford, CA: Stanford University Press.
- Batson, C. D., Schoenrade, P., & Ventis, W. L. (1993). *Religion and the individual*. New York: Oxford University Press.
- Demmrich, S., Atmaca, S., & Dinç, C. (2017). Body image and religiosity among veiled and non-veiled Turkish women. *Journal of Empirical Theology*, 30, 127-147. doi:10.1163/15709256-12341359.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, 49, 71-75. doi:10.1207/s15327752jpa4901\_13.
- Dover, H., Miner, M., & Dowson, M. (2007). The nature and structure of Muslim religious reflection. *Journal of Muslim Mental Health*, 2, 189-210. doi:10.1080/15564900701614858.
- Duriez, B., Soenens, B., & Hutsebaut, D. (2005). Introducing the shortened Post-Critical Belief Scale. *Personality and Individual Differences*, 38, 851-857. doi:10.1016/j.paid.2004.06.009.
- Durkheim, E. (1951). *Suicide*. New York: Free Press. (Original work published 1897).
- Ghorbani, N., Watson, P. J., Amirbeigi, M., & Chen Z. J. (2016). Religious schema within a Muslim ideological surround: Religious and psychological adjustment in Iran. *Archive for the Psychology of Religion*, 38, 253-277. doi:10.1163/15736121-12341327.
- Ghorbani, N., Watson, P. J., Chen, Z., & Dover, H. (2013). Varieties of openness in Tehran and Qom: Psychological and religious parallels of faith and intellect oriented Islamic religious reflection. *Mental Health, Religion, & Culture*, 16, 123-137. doi:10.1080/13674676.2011.647809.

- Ghorbani, N., Watson, P. J., Geranmayepour, S., & Chen, Z. (2014). Measuring Muslim spirituality: Relationships of Muslim experiential religiousness with religious and psychological adjustment in Iran. *Journal of Muslim Mental Health, 8*, 77-94. doi:10.3998/jmmh.10381607.0008.105.
- Ghorbani, N., Watson, P. J., & Khan, Z. (2007). Theoretical, empirical, and potential ideological dimensions of using Western conceptualizations to measure Muslim religious commitments. *Journal of Muslim Mental Health, 2*, 113-131. doi:10.1080/15564900701613041.
- Ghorbani, N., Watson, P. H., Kashanaki, H., & Chen Z. J. (2017). Diversity and complexity of religion and spirituality in Iran: Relationships with self-compassion and self-forgiveness. *International Journal for the Psychology of Religion, 27*, 157-171. doi:10.1080/10508619.2017.1340100.
- Ghorbani, N., Watson, P. J., Shamohammadi, K., & Cunningham, C. J. L. (2009). Post-critical beliefs in Iran: Predicting religious and psychological functioning. *Research in the Social Scientific Study of Religion, 20*, 151-194. doi:10.1163/ej.9789004175624.i-334.50.
- Ghorbani, N., Watson, P. J., & Weathington, B. L. (2009). Mindfulness in Iran and the United States: Cross-cultural structural complexity and parallel relationships with psychological adjustment. *Current Psychology, 28*, 211-224. doi:10.1007/s12144-009-9060-3.
- Gorsuch, R. L., & McPherson, S. E. (1989). Intrinsic/extrinsic measurement: I/E revised and single-item scales. *Journal for the Scientific Study of Religion, 28*, 348-354. doi:10.2307/1386745.
- Jones, A. E., & Elliott, M. (2017). Examining social desirability in measures of religion and spirituality using the bogus pipeline. *Review of Religious Research, 59*, 47-64. doi:10.1007/s13644-016-0261-6.
- Kamble, S. V., Watson, P. J., Duggi, D. B., & Chen, Z. J. (In press). Fundamentalism within an Indian ideological surround: commitment to religious tradition predicts hindu openness. *Research in the Social Scientific Study of Religion*.
- Kamble, S. V., Watson, P. J., Marigoudar, S., & Chen, Z. (2014). Varieties of openness and religious commitment in India: Relationships of attitudes toward Hinduism, Hindu religious reflection, and religious schema. *Archive for the Psychology of Religion, 36*, 172-198. doi:10.1163/15736121-12341283.
- Khan, Z. H., Watson, P. J., & Chen, Z. J. (2017). Religious reflection in Pakistan: Further evidence of integration between Muslim faith and intellect. *Journal of Beliefs and Values*. Advance online publication. doi:10.1080/13617672.2017.129272.
- MacIntyre, A. (1988). *Whose justice? Which rationality?* Notre Dame, IN: University of Notre Dame Press.
- MacIntyre, A. (1990). *Three rival versions of moral enquiry*. Notre Dame, IN: University of Notre Dame Press.

- McCrae, R. R., & Costa, P. T. (1983). Social desirability scales: More substance than style. *Journal of Consulting and Clinical Psychology, 51*, 882-888. doi:10.1037//0022-006x.51.6.882.
- Streib, H., Hood, R. W., Jr., & Klein, C. (2010). The Religious Schema Scale: Construction and initial validation of a quantitative measure for religious styles. *International Journal for the Psychology of Religion, 20*, 151-172. doi:10.1080/10508619.2010.481223.
- Tekke, M., Watson, P. J., İsmail, N. A., & Chen, Z. J. (2015). Muslim religious openness and *ilm*: Relationships with Islamic religious reflection, religious schema, and religious commitments in Malaysia. *Archive for the Psychology of Religion, 37*, 295-320. doi:10.1163/15736121-12341313.
- Trapnell, P. D., & Campbell, J. D. (1999). Private self-consciousness and the five-factor model of personality: Distinguishing rumination from reflection. *Journal of Personality and Social Psychology, 76*, 284-304. doi:10.1037//0022-3514.76.2.284.
- Uziel, L. (2010). Rethinking social desirability scales: From impression management to interpersonally oriented self-control. *Perspectives on Psychological Science, 5*, 243-262. doi:10.1177/1745691610369465.
- Watson, P. J., Chen, Z., Ghorbani, N., & Vartanian, M. (2015). Religious openness hypothesis: I. Religious reflection, schemas, and orientations within religious fundamentalist and biblical foundationalist ideological surrounds. *Journal of Psychology and Christianity, 34*, 99-113.
- Watson, P. J., Chen, Z., & Hood, R. W., Jr. (2011). Biblical foundationalism and religious reflection: Polarization of faith and intellect oriented epistemologies within a Christian ideological surround. *Journal of Psychology and Theology, 39*, 111-121.
- Watson, P. J., Chen, Z. J., & Morris, R. J. (In press). Sanctification of learning and religious openness: Contrasts across religious fundamentalist and biblical foundationalist ideological surrounds. *Research in the Social Scientific Study of Religion*.
- Watson, P. J., Chen, Z., Morris, R. J., & Stephenson, E. (2015). Religious Openness Hypothesis: III. Defense against secularism within fundamentalist and biblical foundationalist ideological surrounds. *Journal of Psychology and Christianity, 34*, 125-140.
- Watson, P. J., Ghorbani, N., Vartanian, M., & Chen, Z. (2015). Religious openness hypothesis: II. Religious reflection and orientations, mystical experience, and psychological openness of Christians in Iran. *Journal of Psychology and Christianity, 34*, 114-124.
- Watson, P. J., Milliron, J. T., & Morris, R. J. (1995). Social desirability scales and theories of suicide: Correlations with alienation and self-consciousness. *Personality and Individual Differences, 18*, 701-711. doi:10.1016/0191-8869(95)00003-0.
- Watson, P. J., Morris, R. J., Foster, J. E., & Hood, R. W. (1986). Religiosity and social desirability. *Journal for the Scientific Study of Religion, 25*, 215-232. doi:10.2307/1385478.
- Wulff, D. M. (1997). *Psychology of religion: Classic and contemporary*. (Second ed.). New York: John Wiley & Sons.

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