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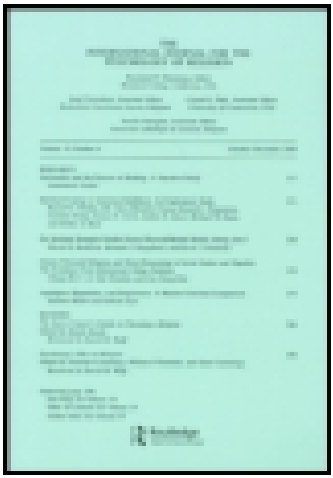

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Muslim-Christian Religious Orientation Scales: Distinctions, Correlations, and Cross-Cultural Analysis in Iran and the United States

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RESEARCH

Muslim–Christian Religious Orientation Scales: Distinctions, Correlations, and Cross-Cultural Analysis in Iran and the United States

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Allport and Ross (1967) Religious Orientation Scales were administered along with nine new Muslim–Christian Religious Orientation Scales (MCROS) to students in Iran and the United States. Religious extrinsicness was associated with self-reported symptoms of psychological disturbance; with the Iranians, intrinsicness predicted adjustment. Most relations among the religious variables were positive with the two samples displaying similar, though not identical, patterns of correlations. Factor analysis of all religious scales in each sample separately yielded two components suggesting Allport's differentiation between the intrinsic and extrinsic motivations. In both samples, partial correlations and multiple regressions were used to remove variance associated with the Allport and Ross scales, and at least some evidence testified to the incremental validity of each MCROS measure in predicting psychological symptoms and the other MCROS variables. Most important, this first systematic, empirical study of the psychology of religion in Iran confirmed the relevance of Allport's thought for understanding Muslim religion and established an empirical foundation for further explorations of the MCROS.

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Psychologists of religion have expressed an abiding interest in religious motivation. They have wondered, for example, whether instrumental and noninstrumental reasons for being religious may produce different psychological effects. Allport (1950) pioneered this concern when he contrasted an intrinsic with an extrinsic religious orientation. With an intrinsic orientation, religion theoretically serves as the master motive in a believer's life. With an extrinsic orientation, religious activity becomes instead a means to other personal and potentially more selfish ends. Allport and Ross (1967) developed Religious Orientation Scales to record these two motivations, and subsequent research generally, though not invariably, confirmed Allport's expectation that intrinsicness would predict adjustment and extrinsicness maladjustment (e.g., Donahue, 1985a, 1985b; Gorsuch, 1984, 1994).

Three aspects of this previous literature were most relevant to this project. First, critics have raised doubts about Allport's conceptual and empirical distinctions between the two religious orientations. Among other things, they have suggested that (a) the Intrinsic scale fails to measure a fully adaptive motivation (e.g., Batson, Schoenrade, & Ventis, 1993; Batson & Ventis, 1982), (b) Allport was blind to the positive potentials of extrinsicness (Pargament, 1992), and (c) Allport and other researchers defined and thus operationalized intrinsicness in often ambiguous ways (Gorsuch, 1994).

Second, especially the extrinsic orientation has turned out to be more complex than Allport originally suspected. Allport and Ross (1967) disconfirmed their initial expectation that the two orientations would define polar opposites along a single continuum. In addition, factor analyses subsequently revealed the Extrinsic scale to be a multidimensional construct (Gorsuch & McPherson, 1989; Kirkpatrick, 1989), a finding very much consistent with the idea that "each person may be religious for multiple reasons" (Gorsuch, Mylvaganam, Gorsuch, & Johnson, 1997, p. 254). Indeed, the notion that extrinsicness can have positive as well

as negative adjustment implications (Pargament, 1992) implies more specifically that each person may be extrinsically religious for many reasons that perhaps remain to be operationalized.

Third, most studies using religious orientation scales have examined largely Christian samples taken from English-speaking, primarily American, British, and Canadian, populations. The validity of the intrinsic–extrinsic distinction for other cultures and religions, therefore, is an open question that has been examined only infrequently in the past (e.g., Gorsuch et al., 1997; Hovemyr, 1998; Kaldestad & Stifoss-Hanssen, 1993; Ponton & Gorsuch, 1988). Indeed, the attempt to extend Allport's conceptualizations to other religions has not always met with success. Several researchers, for example, experienced difficulties when they tried to use an Arabic translation of Hoge's (1972) Intrinsic Scale with a Kuwaiti Muslim sample (Thorson, Powell, Abdel-Khalek, & Beshai, 1997).

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PRESENT STUDY

This project responded to this Allportian research tradition in three basic ways. First, new religious orientation scales were devised. These new measures were based on a conceptual analysis that sought to articulate more precise definitions of religious motivation. Second, these scales included an attempt to more comprehensively assess the extrinsic orientation in terms of both its potentially positive and negative implications for adjustment. Finally, and most important, religious motivation was examined not only in a largely Christian, American sample, but also in a group of Muslim Iranians who responded to questionnaires written in Persian.

That motivational factors may be central to Iranian religious life seemed obvious in the mystical and religious literature of Muslims. The *Mathnawi* of Rumi (1985), for example, is a famous mystical book of the Persians. In verses 2785–2788, Rumi included the story of a man who goes to a bakery for bread, but when he sees the beauty and perfection of the baker, he falls in love with the baker. A need for bread reflects an extrinsic motivation. Falling in love with the baker (as a symbol for God) points toward an intrinsic motivation. In line with previous speculation (Pargament, 1992), such verses also suggest that extrinsic intentions may not be wholly maladaptive, but instead may be necessary as a first step in the development of deeper, more sincere intrinsic commitments (Allport, 1950, p. 72; Spohn, 1999, p. 38).

More important, Mohammed, the messenger of Islam, emphasized that "God does not look at your body or your face, he looks at your heart" (Khoram shahi & Ansari, 1376/1996, p. 326) and that "God will evaluate people on the day of judgment according to their intention" (Al-seyofi, 1981, p. 103). In Islam, behavior is in fact secondary, and intention or motivation is primary. The criterion for differentiating between sincere and insincere intention is whether the motivation is "to

be close to God." A true liberation from all internal and external demands, it is assumed, depends on a devout orientation toward God. For example, Imam Ali, a spiritual leader of Islam after Mohammed, once argued that motivations to reach heaven and to avoid hell are not sincerely religious desires that have closeness to God as their ultimate goal (Ali, 1373/1985, p. 400). Worship as an instrument to avoid hell or to gain heaven implies extrinsicness. Worship to be close to God points instead toward an intrinsic motivation (Watson & Ghorbani, 1998).

Allport's thought, therefore, seemed potentially relevant to a Muslim as well as a Christian psychology of religion and supplied a framework for creating new scales that may better differentiate among the religious motivations that exist both between and within individuals. Religious motivation was conceptualized in terms of an abstract formula specifying the relation between an act and a goal: A person does X to achieve Y. Relative to the Muslim literature, a person may worship (X) to get close to God (Y). Worship here would seek an outcome that was internal and thus intrinsic to the direct strengthening of religious life. This definition was deemed to supplement rather than replace Allport's approach and also seemed to be consistent with Gorsuch's (1994) more precise description of intrinsicness as "the motivation for experiencing and living one's faith for the sake of the faith itself. The person's religion is an end unto itself, a goal pursued in the absence of external reinforcement" (Allport, 1950, p. 317).

With an extrinsic motivation, a person instead engages in some religious act (X) to obtain some at least partially nonreligious outcome (Y). Such a goal consequently would be at least somewhat external or extrinsic to the direct strengthening of religious life. Someone may worship (X) to avoid hell and reach heaven (Y). As implied by Ali, such goals could betray a self-centered desire to obtain personal happiness in life after death. Of course, a particular belief may reflect multiple motivations (Gorsuch et al., 1997). Perhaps an individual wants to go to heaven to be close to God throughout eternity. This desire may be described as directly extrinsic and indirectly intrinsic. On the other hand, the longer-term goal may only be to obtain the pleasures that heaven supposedly makes available. Such a sequence of desires would seem best characterized as both directly and indirectly extrinsic.

This analysis of religious motivation served as a foundation for developing a broad, although not necessarily exhaustive, operationalization of extrinsicness. First, a religious act (X) could be associated with extrinsic goals (Y) in this world (this-worldly) or the next (other-worldly). In this world, the valued outcome may be specific to self-development and psychological functioning (personal), to social life and standing within the community (social), or to the well-being of society (cultural). Outcomes in both worlds may be positively reinforcing in that they reflected efforts to obtain a perceived good (positive) or negatively reinforcing in that they involved attempts to eliminate or avoid a perceived bad (negative).

Along with the new MCROS, Iranian and American participants responded to the Allport and Ross (1967) Religious Orientation Scales and to self-report mea-

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sures of psychological disturbance. Use of these instruments first made it possible to test the cross-cultural validity of Allport's conceptualization of religious motivation. Confirmation of this validity would appear if intrinsicness in the Iranian sample predicted healthier and at least some measures of extrinsicness predicted unhealthier psychological functioning. Second, MCROS data were used to explore the idea that extrinsicness may have adaptive influences as well (Pargament, 1992). Being religious to benefit the culture, in particular, seemed to have more positive adjustment implications. Third, negatively reinforcing uses of religion place the problems of life at the center of personal commitment and thus may be more maladjusted. Finally, evidence was sought to explore the rather obvious possibility that religion was more important to the Iranian than to the more secularized American way of life.

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METHOD

Participants

Samples consisted of university students from Iran and the United States. The group of Iranians (N = 187) included 81 men and 105 women, with one individual failing to indicate gender. Their average age was 22.6 (SD = 5.41). With the Americans (N = 188), 78 men and 110 women had an average age of 20.0 (SD = 3.93). All Iranians were Persian Muslims. Religious affiliation was, of course, more variable in the U.S. participants, with 38.8% Baptist, 11.2% Catholic, 11.2% Methodist, 6.9% Presbyterian, 6.4% Church of Christ, 2.7% Church of God, 7.4% Other Protestant, and 15.4% simply Other. Greater racial diversity was evident for the Americans as well: 71.3% Caucasian, 23.4% African-American, and 5.3% various other racial groups. All participants were volunteers, with the U.S. students receiving extra credit in an introductory psychology class in return for their cooperation. Varying educational interests were a feature of both samples, but religion was a much more obvious career objective in the Iranians with 34.4% studying theology. The Americans attended a public state university, thus the study of theology was not an option available to them.

Measures

All scales were presented in two questionnaire booklets that also contained measures employed in other related projects. Booklets for the two samples were as identical as possible with Iranians presented Persian translations of the English instruments administered to the Americans. The adequacy of all translations was confirmed by having the Persian versions translated back into English by someone un-

familiar with the study. The first booklet included six scales recording self-reported symptoms of psychological disturbance and also the Allport and Ross Religious Orientation Scales. The second booklet contained the new MCROS.

Psychological disturbance was assessed with the five scales from the Hopkins Symptom Checklist (HSCL; Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974). The HSCL was chosen because it has been used frequently with undergraduates (e.g., Maddi & Khoshaba, 1994; Roberts, 1995), because it has proven to be valid when translated into other languages (e.g., De Brabander, Hellemans, Boone, & Gerits, 1996), and most important because it has been employed successfully in studies of cultural variation in psychological functioning (e.g., Kenny & Perez, 1996; Liebkind, 1996; Pernice & Brook, 1996). All respondents self-reported the experience of symptoms associated with anxiety, depression, somatization, obsessive-compulsion, and interpersonal sensitivity. All responses were made along a 5-point scale ranging from 0 (*not at all*) to 4 (*extremely*). For theoretical reasons associated with one of the other studies, psychoticism items from the Symptom Checklist (SCL-90; Derogatis & Cleary, 1977) also were administered and interspersed among those from the HSCL. Through oversight, one psychoticism symptom was omitted from the Iranian questionnaire (i.e., "hearing voices that other people do not hear") and so was dropped from the American data as well.

Allport and Ross scales were presented and scored according to standard procedures. The Persian translation substituted appropriate Muslim concepts for those specific to Christian traditions. For example, *Quran* was used for *Bible* and *mosque* or *religious group* for *church*. In addition to the full Extrinsic scale, data analyses involved an examination of the Extrinsic Personal (3 items) and Social (3 items) factors along with the remaining five Extrinsic Residual items identified by Kirkpatrick (1989).

Nine scales made up the MCROS. As noted previously, all items were based on the assumption that individuals engaged in some religious activity (X) to achieve either a religious (intrinsic) or an at least partially nonreligious (extrinsic) outcome (Y). In most of these statements, the "do X to achieve Y" format was followed explicitly; however, this structure was more implicit in some items. Reactions to the MCROS were made along a 4-point scale ranging from 0 (*definitely disagree*) to 3 (*definitely agree*). This four-point scale was employed (a) to offer a very rough parallel to the procedures of Allport and Ross, (b) to prevent overuse of the neutral option that would have been available with a five-point scale, and (c) to enable utilization with the American sample of standardized response sheets that could be read by optical scanning equipment into a computer data file.

Illustrative of the MCROS Intrinsic scale were beliefs that "it is essential that I spend time reading the Quran (Bible) so that I can hear what God has to say to me" and that "in my religious life, I always seek closeness to God." Six of the MCROS Extrinsic scales assumed that the outcomes of religious activities would occur in this world before death (extrinsic this-worldly). Of these, two scales each made

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reference to effects that were personal (P), social (S), or cultural (C) in nature. Within each pair, one scale measured outcomes that were positively reinforcing (P) with the other recording negatively reinforcing consequences (N).

Representative of the Extrinsic This-Worldly: Personal-Positive (ETW:P-P) scale were claims that "I practice religion because it helps me be more mature" and "I read the Quran (Bible) because it makes me feel good about myself." An Extrinsic This-Worldly: Personal-Negative (ETW:P-N) orientation was evident in such assertions as "I pray because I do not want to experience the anxiety and worry that I feel when I do not" and "an awareness of my own personal inadequacies is a main reason why I need God."

The Extrinsic This-Worldly: Social-Positive (ETW:S-P) scale included statements that "a principal reason behind my religion is to make new friends and acquaintances" and that "I practice the charity recommended by my religion so that other people will see me as a good person." The Extrinsic This-Worldly: Social-Negative (ETW:S-N) scale involved items indicating, for example, that "I take part in the practices of my religion so that people will not criticize me" and that "I am religious in order not to have a bad reputation among others."

Cultural items mentioned presumed effects of religion on the wider society and on social institutions like marriage. Illustrative of the Extrinsic This-Worldly: Cultural-Positive (ETW:C-P) scale were statements that "my motivation for being religious is a desire to develop a human society that is peaceful, just, and happy" and that "my commitment to religion is based on the belief that religion is necessary if a society is to be moral." Extrinsic This-Worldly: Cultural-Negative (ETW:C-N) items included claims that "a lack of religion produces many difficulties within a society, and this is an important reason why I am religious" and that "I am religious because I know that the loss of religious life leads to the decline of civilization and culture."

Two other MCROS Extrinsic scales operationalized effects that may occur after death in the next or other world (extrinsic other-worldly). The Extrinsic Other-Worldly: Positive (EOW:P) scale included affirmations that "I am religious because I want to spend eternity in heaven" and that "I am religious in this life so that I can earn the joys that are possible in the next life." The Extrinsic Other-Worldly: Negative (EOW:N) scale contained such claims as "I do my best to avoid sin because I do not want to go to hell" and that "fear of punishment in hell explains why I am religious."

Finally, in addition to responding to the religious motivation scales, all participants rated their own personal interest in religion. Interest ratings were expressed by answering the question, "How interested are you in religion?" Reactions varied from 0 (*not at all interested*) to 9 (*extremely interested*).

As a summary of these variables, Table 1 presents the means and standard deviations for all psychological and religious scales in each sample separately. This table also demonstrates that students from the two cultures displayed roughly comparable internal reliabilities for all of scales.

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TABLE 1
Number of Items (in parentheses), Alphas, Means, and Standard Deviations (SD) of Religious and Psychological Symptom Measures in Samples from Iran and the United States

	Iran Sample (N=187)			*United States Sample (N=188)*		
Measures	*Alpha*	*Mean*	*SD*	*Alpha*	*Mean*	*SD*
Allport and Ross Religious Orientation Scales						
Intrinsic Scale (9)	.74	32.96	6.69	.84	30.56	8.42
Extrinsic Scale (11)	.65	31.86	6.96	.71	28.38	7.29
Extrinsic Personal (3)	.65	11.97	2.89	.62	9.65	3.05
Extrinsic Social (3)	.68	8.32	3.27	.59	6.66	2.84
Extrinsic Residual (5)	.64	11.57	4.35	.60	12.07	4.04
Muslim-Christian Religious Orientation Scales						
Intrinsic (25)	.94	54.18	15.44	.97	50.21	15.86
ETW:P-P (13)	.93	25.30	8.63	.89	20.21	6.82
ETW:P-N (23)	.94	42.93	14.59	.92	33.20	11.40
ETW:S-P (11)	.88	13.87	7.13	.86	11.66	5.45
ETW:S-N (11)	.88	14.67	7.19	.86	11.39	5.45
ETW:C-P (16)	.93	29.15	10.36	.92	25.87	8.74
ETW:C-N (16)	.93	28.79	10.71	.93	22.44	9.12
EOW:P (9)	.92	14.91	7.07	.91	17.03	5.77
EOW:N (12)	.93	19.04	8.71	.90	19.66	7.01
Psychological Symptom Measures						
Anxiety (6)	.80	7.39	4.81	.80	4.96	3.49
Depression (11)	.86	22.11	10.03	.86	12.95	6.86
Obsessive-Compulsiveness (8)	.80	13.42	6.33	.74	12.20	5.15
Psychoticism (9)	.82	12.67	7.49	.74	7.38	4.70
Interpersonal Sensitivity (7)	.83	11.63	6.12	.84	9.39	4.87
Somatization (12)	.88	17.75	10.32	.87	12.95	7.05

Note. ETW:P-P = extrinsic this-worldly: personal-positive; ETW:P-N = extrinsic this-worldly: personal-negative; ETW:S-P = extrinsic this-worldly: social-positive; ETW:S-N = extrinsic this-worldly: social-negative; ETW:C-P = extrinsic this-worldly: cultural-positive; ETW:C-N = extrinsic this-worldly: cultural-negative; EOW:P = extrinsic other-worldly: positive; EOW:N = extrinsic other-worldly: negative.

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Procedures

Development of MCROS items was accomplished via e-mail by the first two authors over an extended period of time. The goal was to devise an instrument that was at least potentially consistent with the beliefs of both Iranian Muslims and American Christians. Initially, a conceptual analysis of religious motivation in both cultures resulted in identification of the nine religious orientations described previously. A large array of potentially relevant statements was created for each scale. No effort was made to produce the same number of items for each new scale. Instead, an emphasis was placed on identifying a range of statements that seemed to offer a sufficient operationalization of each construct. To make the process of translation easier, each statement directly expressed the religious motivation involved (i.e., there were no negatively worded statements).

Close attention was paid to problems of translation, not only for the MCROS, but for the other measures as well. Provisions were made to drop any items that produced noteworthy reductions in the internal reliability of a measure (e.g., elimination of any statement displaying a negative item-to-total correlation), but these procedures proved to be unnecessary. Copies of the MCROS and of all other measures in both English and Persian are available on request.

Again, all instruments were administered to both samples in the same order and with the same basic instructions. The only difference was that the Iranian students entered their responses directly on the questionnaire booklets, whereas the Americans noted their reactions on standardized answer sheets that subsequently were read by optical scanning equipment into a computer data file. Administration of all scales occurred in groups of varying size, but in none larger than approximately 50. After completing the first questionnaire booklet, each participant immediately went on to the second. The time to complete the project was less than 1 hr, 30 min in virtually every instance. The Iranian data were entered into a computer data file by hand, with all entries double checked to ensure accuracy.

RESULTS

As with similar groups of U.S. students in the past, the two Allport and Ross Religious Orientation Scales correlated inversely (–.25, $p < .01$), suggesting that these Americans were somewhat conservative in their religious commitments (Donahue, 1985a). Intrinsicness also displayed an inverse association with the Extrinsic Residual items (–.54, $p < .001$) and nonsignificant connections with the Extrinsic Personal (.13, $p > .50$) and Social (–.01, $p > .80$) factors. This negative relation with the Extrinsic Residual variable was expected in light of previous claims that these items actually reflect statements of intrinsicness scored in the opposite direction (e.g., Kirkpatrick, 1989).

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With Iranian participants, Intrinsic and Extrinsic scales demonstrated a near-significant positive relation (.14, $p = .06$). The Intrinsic scale also correlated positively with the Extrinsic Personal (.38) and Social (.48) factors and negatively with the Residual items (–.39, p's < .001). Residual items displayed direct linkages with the two Extrinsic factors in the American (r's > .15, p's < .05), but not in the Iranian (r's < .06, p's > .40) sample.

For the Americans, Religious Interest ratings correlated directly with the Intrinsic scale (.70, $p < .001$), inversely with the Extrinsic scale (–.32, $p < .001$) and Residual items (–.56, $p < .001$), and nonsignificantly with the Extrinsic Personal (.10, $p > .10$) and Social (–.12, $p > .10$) factors. For the Iranians, Religious Interest ratings correlated positively with the Intrinsic scale (.71, $p < .001$) and the Extrinsic Personal and Social (r's > .32, p's < .001) factors, inversely with the Residual items (–.44, $p < .001$), and nonsignificantly with the Extrinsic scale (.04, $p > .60$).

Table 2 summarizes the intercorrelations among the MCROS variables. Moderate to very strong positive correlations were observed among all measures for both the Iranians and the Americans. These associations were not consistently greater for one sample or the other.

MCROS correlations with other religious measures are presented in Table 3. Data for Religious Interest, the original Intrinsic scale, and the Extrinsic Personal factor yielded no striking contrasts between the two countries. All of these rela-

TABLE 2
Correlations Among Measures from the Muslim–Christian Religious Orientation Scale in a Sample of Iranians (above diagonal) and Americans (below diagonal)

MCROS	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
1. Intrinsic	—	85*	.76*	.36*	.36*	.77*	.77*	.60*	.58*
2. ETW:P-P	.74*	—	.86*	.56*	.57*	.85*	.85*	.68*	.71*
3. ETW:P-N	.71*	.81*	—	.67*	.70*	.81*	.84*	.80*	.85*
4. ETW:S-P	.40*	.70*	.68*	—	.89*	.63*	.64*	.68*	.71*
5. ETW:S-N	.40*	.66*	.74*	.84*	—	.63*	.64*	.66*	.72*
6. ETW:C-P	.75*	.88*	.77*	.66*	.62*	—	.92*	.69*	.70*
7. ETW:C-N	.64*	.82*	.79*	.72*	.75*	.87*	—	.69*	.70*
8. EOW:P	.70*	.73*	.75*	.47*	.48*	.68*	.63*	—	.90*
9. EOW:N	.57*	.64*	.76*	.48*	.51*	.59*	.59*	.87*	—

Note. MCROS = Muslim–Christian Religious Orientation Scale; ETW:P-P = extrinsic this-worldly: personal-positive; ETW:P-N = extrinsic this-worldly: personal-negative; ETW:S-P = extrinsic this-worldly: social-positive; ETW:S-N = extrinsic this-worldly: social-negative; ETW:C-P = extrinsic this-worldly: cultural-positive; ETW:C-N = extrinsic this-worldly: cultural-negative; EOW:P = extrinsic other-worldly: positive; EOW:N = extrinsic other-worldly: negative.

*$p < .001$.

TABLE 3
Correlations of Muslim–Christian Religious Orientation Scales with Other Religious Variables in the Iranian and American Samples

		Allport and Ross Religious Orientation Scales					
	Country	*Religious Interest*	*Intrinsic Scale*	*Extrinsic Scale*	*Extrinsic Personal*	*Extrinsic Social*	*Extrinsic Residual*
Intrinsic	Iran	.60***	.69***	.29***	.55***	.40***	–.20**
	US	.67***	.82***	–.17*	.26***	.01	–.51***
ETW:P-P	Iran	.49***	.53***	.48***	.59***	.51***	.00
	US	.44***	.53***	.24***	.49***	.30***	–.16*
ETW:P-N	Iran	.39***	.45***	.54***	.59***	.52***	.07
	US	.41***	.52***	.15*	.46***	.21**	–.23**
ETW:S-P	Iran	.22**	.29***	.61***	.39***	.65***	.22**
	US	.22**	.28***	.45***	.43***	.53***	.11
ETW:S-N	Iran	.20*	.23**	.62***	.41***	.57***	.29***
	US	.23**	.28***	.34***	.41***	.38***	.02
ETW:C-P	Iran	.51***	.53***	.50***	.54***	.57***	.01
	US	.45***	.56***	.19*	.45***	.27***	–.19**
ETW:C-N	Iran	.52***	.54***	.49***	.57***	.56***	–.01
	US	.42***	.48***	.18*	.42***	.26***	–.18*
EOW:P	Iran	.36***	.42***	.50***	.45***	.52***	.11
	US	.36***	.47***	.12	.40***	.13	–.18*
EOW:N	Iran	.27***	.35***	.56***	.46***	.49***	.21**
	US	.27***	.38***	.10	.40***	.11	–.19**

Note. MCROS = Muslim–Christian Religious Orientation Scale; ETW:P-P = extrinsic this-worldly: personal-positive; ETW:P-N = extrinsic this-worldly: personal-negative; ETW:S-P = extrinsic this-worldly: social-positive; ETW:S-N = extrinsic this-worldly: social-negative; ETW:C-P = extrinsic this-worldly: cultural-positive; ETW:C-N = extrinsic this-worldly: cultural-negative; EOW:P = extrinsic other-worldly: positive; EOW:N = extrinsic other-worldly: negative.

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

tions were direct with each sample sometimes exhibiting a slightly more robust association. Significant positive correlations for the Allport and Ross Extrinsic scale and Social factor tended to be stronger for the Iranians, whereas the Americans were more likely to display inverse or nonsignificant relations. The most striking contrast was a linkage between the original Extrinsic and new Intrinsic scales that was direct in the Iranians, but inverse in the Americans. With regard to the Extrinsic Residual items, negative correlations were stronger and more likely for the

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U.S. sample, with nonsignificant and positive associations more obvious for the Iranians. Indeed, the linkage of these items with EOW:N was direct for the Iranians and inverse for the Americans.

Relationships with Mental Health

The two samples displayed similar patterns of strong positive relations among the mental health variables (all *p*'s < .001). With the Iranians, these associations ranged from .62 (between somatization and interpersonal sensitivity) to .84 (between depression and psychoticism). With the Americans, the correlations ranged from .54 (between interpersonal sensitivity and obsessive-compulsiveness) to .79 (between depression and interpersonal sensitivity).

Significant connections between the Allport and Ross and mental health measures were obtained only with the Iranian sample. With these participants, the Intrinsic scale predicted lower levels of depression (–.15) and psychoticism (–.17, *p*'s < .05). The Extrinsic scale correlated positively with anxiety (.30, *p* <.001), depression (.30, *p* <.001), obsessive-compulsion (.24, *p* <.01), psychoticism (.29, *p* < .001), and interpersonal sensitivity (.26, *p* < .001). For Residual items, these relationships were .22, .27, .16, .19, and .25 (*p*'s < .05), respectively. The Extrinsic Personal factor correlated directly with all six mental health measures, with associations ranging from .16 (*p* < .05) with obsessive-compulsion to .27 (*p* < .001) with depression. The only significant result for the Extrinsic Social factor was a .16 (*p* <.05) relation with anxiety.

As Table 4 demonstrates, relations between the MCROS and mental health also were more obvious for the Iranian sample. In this sample, at least one significant result was observed for eight of the nine MCROS measures. For ETW:P-N, ETW:S-N, and EOW:N, five of six linkages with psychological symptoms proved to be statistically significant, and four of six were reliable for ETW:S-P and EOW:P. With the U.S. sample, five of the nine MCROS scales yielded a significant positive relation with obsessive-compulsiveness. ETW:P-N displayed an additional tie with greater psychoticism.

Analyses Controlling for Allport and Ross Scales

With the Iranian sample, all new religious orientation measures predicted higher scores on both Allport and Ross scales. MCROS correlations with maladjustment and adjustment, therefore, could have been obscured by a covariance with the relative adjustment of intrinsicness and the relative maladjustment of extrinsicness, respectively.

In such cases, partial correlations are frequently used to uncover relations no longer obscured by the covariance of another variable, (e.g., Cheek & Briggs, 1982, p. 405; Watson, Hickman, & Morris, 1996, p. 256). Table 5 reveals that

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TABLE 4
Correlations of Muslim–Christian Religious Orientation Scales with Symptom Checklist Measures in Iranian and American Samples

		Symptom Checklist Measures					
MCROS	*Country*	*Anxiety*	*Depression*	*Obsessive-Compulsive*	*Psychoticism*	*Interpersonal Sensitivity*	*Somatization*
Intrinsic	Iran	.04	.02	.03	–.04	.01	.01
	US	.04	.02	.09	.01	–.07	.06
ETW:P-P	Iran	.17*	.13	.13	.07	.13	.07
	US	.08	.05	.17*	.08	–.04	.08
ETW:P-N	Iran	.28***	.23**	.22**	.23**	.25***	.13
	US	.13	.07	.15*	.17*	.04	.09
ETW:S-P	Iran	.26*	.19*	.14*	.20**	.13	.09
	US	.08	–.05	.09	.08	–.08	–.01
ETW:S-N	Iran	.26***	.21**	.16*	.24**	.15*	.13
	US	.14	.02	.16*	.10	–.03	.04
ETW:C-P	Iran	.18*	.06	.10	.07	.08	.05
	US	.05	.01	.16*	.04	–.08	.06
ETW:C-N	Iran	.17*	.12	.11	.10	.10	.09
	US	.06	.00	.16*	.06	–.07	.04
EOW:P	Iran	.23**	.18*	.13	.17*	.18*	.09
	US	.05	–.01	.08	.06	.01	.08
EOW:N	Iran	.25***	.23**	.18*	.24**	.23**	.10
	US	.09	.05	.11	.11	.04	.09

Note. MCROS = Muslim–Christian Religious Orientation Scale; ETW:P-P = extrinsic this-worldly: personal-positive; ETW:P-N = extrinsic this-worldly: personal-negative; ETW:S-P = extrinsic this-worldly: social-positive; ETW:S-N = extrinsic this-worldly: social-negative; ETW:C-P = extrinsic this-worldly: cultural-positive; ETW:C-N = extrinsic this-worldly: cultural-negative; EOW:P = extrinsic other-worldly: positive; EOW:N = extrinsic other-worldly: negative.
*$p < .05$. **$p < .01$. ***$p < .001$.

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TABLE 5
Relationships in Iranian Sample of Muslim–Christian Religious Orientation Scales with Symptom Checklist Measures After Partialing Out Allport and Ross Intrinsic or Extrinsic Scales

		Symptom Checklist Measures					
MCROS	*Partialed Out*	*Anxiety*	*Depression*	*Obsessive-Compulsive*	*Psychoticism*	*Interpersonal Sensitivity*	*Somatization*
Intrinsic	INT	.17*	.21*	.18*	.13	.18*	.19*
	EXT	–.15	–.24**	–.18*	–.26**	–.20*	–.16*
ETW:P-P	INT	.27**	.27**	.25**	.19*	.26**	.19*
	EXT	.04	–.05	.00	–.13	–.01	–.01
ETW:P-N	INT	.38***	.36***	.34***	.36***	.37***	.26**
	EXT	.15	.06	.10	.05	.12	.07
ETW:S-P	INT	.28***	.22**	.19*	.26**	.19*	.13
	EXT	.08	–.07	–.05	–.02	–.06	–.03
ETW:S-N	INT	.28***	.24**	.20*	.28***	.19*	.16*
	EXT	.09	–.03	–.02	.03	–.04	.02
ETW:C-P	INT	.30***	.20*	.24**	.21**	.24**	.17*
	EXT	.08	–.07	–.05	–.02	–.06	–.03
ETW:C-N	INT	.28***	.25**	.24**	.23**	.26**	.20*
	EXT	.09	–.03	–.02	.03	–.04	.02
EOW:P	INT	.33***	.31***	.27**	.32***	.31***	.21**
	EXT	.12	.02	.05	.03	.07	.04
EOW:N	INT	.33***	.33***	.28***	.36***	.33***	.20*
	EXT	.13	.07	.07	.09	.10	.04

Note. MCROS = Muslim–Christian Religious Orientation Scale; INT = Intrinsic; EXT = Extrinsic; ETW:P-P = extrinsic this-worldly: personal-positive; ETW:P-N = extrinsic this-worldly: personal-negative; ETW:S-P = extrinsic this-worldly: social-positive; ETW:S-N = extrinsic this-worldly: social-negative; ETW:C-P = extrinsic this-worldly: cultural-positive; ETW:C-N = extrinsic this-worldly: cultural-negative; EOW:P = extrinsic other-worldly: positive; EOW:N = extrinsic other-worldly: negative.

*p <. 05. **p < .01. ***p < .001.

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partial correlations controlling for the Intrinsic scale in fact produced a greater consistency in the linkages of the MCROS with maladjustment. Indeed, 43 of 45 partial, as compared to 26 of 45 zero-order, correlations with maladjustment now proved to be statistically reliable. Hence, the failure of the zero-order MCROS Extrinsic data to correlate as broadly with psychological dysfunction was explained by a covariance of these measures with the more adaptive Intrinsic Religious Orientation.

When the Extrinsic scale was removed, the MCROS Intrinsic scale displayed, for the very first time, inverse relations with the mental health symptoms. In addition, none of the 26 zero-order MCROS correlations with maladjustment remained statistically significant. Most important, these data, therefore, confirmed that the failure of the MCROS Intrinsic scale to yield unambiguous zero-order associations with relative mental health was explained by its covariance with the more maladaptive Extrinsic Religious Orientation.

To what extent did the original Allport and Ross scales offer an exhaustive operationalization of religious orientation? Some insight into that question was obtained by examining partial correlations that controlled for both the Intrinsic and Extrinsic scales. With the U.S. sample, all correlations among the MCROS variables remained highly reliable (all p's < .001). The weakest association was .32 between ETW:S-P and the MCROS Intrinsic scale. The strongest was .84 between EOW:P and EOW:N. All but the EOW:P and EOW:N measures continued to predict greater Religious Interest ratings (r's > .16, p's < .05). In addition, the MCROS Intrinsic, ETW:P-P, ETW:P-N, ETW:S-N, ETW:C-P, and ETW:C-N variables were associated with greater obsessive-compulsiveness (r's > .15, p < .05). A positive partial correlation also appeared between ETW:P-N and psychoticism (.14, p < .05).

With the Iranian participants, the MCROS Intrinsic scale no longer predicted greater ETW:P-P scores (.12, p > .05) after the two Allport and Ross scales were removed. All other MCROS intercorrelations remained statistically significant, ranging from .21 (p < .01) between the new Intrinsic and ETW:P-N measures to .86 (p < .001) between EOW:P and EOW:N. The Iranian sample also displayed significant partial correlations between Religious Interest ratings and the MCROS Intrinsic, ETW:P-P, ETW:C-P, and ETW:C-N scales (r's > .21, p's < .01). At least one significant partial correlation was observed with each of the six mental health variables. EOW:P, EOW:N and ETW:P-N were related to higher levels of psychoticism and interpersonal sensitivity (r's > .16, p's < .05). In addition to direct linkages with these three MCROS variables, anxiety also predicted greater ETW:C-P scores (r's > .16, p's < .05). EOW:N and ETW:P-N were tied to greater depression (r's > .17, p's < .05), and ETW:P-N correlated directly with somatization (.17, p < .05) and obsessive-compulsion (.21, p < .01).

Partial correlations removing both Allport and Ross scales offered some support for the incremental validity of the MCROS. A more conservative analysis

of this issue was accomplished by using multiple regressions in which all nine MCROS measures were entered in the prediction equation after the two Allport and Ross scales. This made it possible to determine if any MCROS measure uniquely accounted for variance in the Religious Interest and psychological symptoms. With the Iranians, ETW:P-N proved to be a reliable predictor of greater anxiety (*beta* = .55, $p < .01$), depression (*beta* = .40, $p < .05$), obsessive-compulsiveness (*beta* = .56, $p < .01$), psychoticism (*beta* = .64, $p < .01$), and interpersonal sensitivity (*beta* = .75, $p < .001$). A significant *beta* also appeared between ETW:C-P and depression (–.47, $p < .001$). With the Americans, significant *betas* were observed for ETW:S-P and depression (–.33, $p < .05$), ETW:S-P and obsessive compulsiveness (–.32, $p < .05$), ETW:P-N and psychoticism (.43, $p < .05$), ETW:P-N and interpersonal sensitivity (.39, $p < .05$), and the MCROS Intrinsic scale and Religious Interest ratings (.33, $p < .05$).

Factor Analysis

An overview of the religious orientation variables within each sample was obtained with a principal components analysis utilizing a varimax rotation. The Allport and Ross Extrinsic Personal, Social, and Residual measures were used instead of the full Extrinsic scale to enhance the multidimensional complexity of the analysis. Results from these procedures are reviewed in Table 6.

Two factors with eigenvalues greater than one appeared in both samples. One component was largely or wholly delimited by extrinsic measures. The other was more strongly identified as an intrinsic factor. This intrinsic component was defined by strong loadings of the two intrinsic scales that were opposite in sign from those for the Extrinsic Residual items. Many measures displayed fairly robust loadings on both factors, and a differentiation between intrinsicness and extrinsicness tended to be clearer with the Iranians.

For the Iranians, the first factor was associated with an eigenvalue of 7.84 and explained 60.3% of the variance. An eigenvalue of 1.80 was obtained for the second component, which explained an additional 13.6% of the variance. With the Americans, eigenvalues of 7.21 and 2.18 were observed with 55.5% and 16.8% of the variance explained by the first and second factors, respectively.

Sample and Gender Contrasts

Finally, multiple regressions were employed to determine if differences existed across the two samples (Iran = 1, United States = 2) and genders (men = 1, women = 2). The sample and gender variables were entered into the regression equation on the first step followed by their interaction on the second step. The Iranian theology majors were excluded from these analyses to make the two groups of participants more comparable.

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TABLE 6
Factors Obtained with Religious Orientation Measures in Samples from Iran and the United States

	Iran		*United States*	
Measure	*1*	*2*	*1*	*2*
Allport and Ross Religious Orientation Scales				
Intrinsic	.27	.76	.82	–.08
Extrinsic Personal	.55	.37	.21	.61
Extrinsic Social	.65	.22	–.16	.75
Extrinsic Residual	.40	–.71	–.67	.54
MCROS				
Intrinsic	.53	.76	.92	.09
ETW:P-P	.74	.53	.73	.56
ETW:P-N	.85	.38	.76	.52
ETW:S-P	.88	–.04	.36	.81
ETW:S-N	.90	–.08	.42	.73
ETW:C-P	.77	.48	.74	.51
ETW:C-N	.77	.50	.68	.57
EOW:P	.83	.23	.74	.37
EOW:N	.88	.14	.68	.38

Note. MCROS = Muslim–Christian Religious Orientation Scale; ETW:P-P = extrinsic this-worldly: personal-positive; ETW:P-N = extrinsic this-worldly: personal-negative; ETW:S-P = extrinsic this-worldly: social-positive; ETW:S-N = extrinsic this-worldly: social-negative; ETW:C-P = extrinsic this-worldly: cultural-positive; ETW:C-N = extrinsic this-worldly: cultural-negative; EOW:P = extrinsic other-worldly: positive; EOW:N = extrinsic other-worldly: negative. Maximum loading for each variable is underlined. These data reflected the use of a principal components analysis with a varimax rotation.

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Iranians exhibited higher scores on the anxiety, depression, psychoticism, interpersonal sensitivity, somatization, ETW:P-N, ETW:P-P, ETW:C-P, ETW:C-N, ETW:S-P, ETW:S-N, extrinsic, extrinsic personal, and extrinsic social measures (*betas* = –.15 to –.44, *p*'s < .05). U.S. students were higher only on EOW:P (*beta* = .17, $p < .01$). Perhaps surprisingly, no sample difference appeared in religious interest, with the Americans having slightly higher ratings ($M = 6.68$, $SD = 2.23$) than the Iranians ($M = 6.32$, $SD = 2.28$).

Women scored higher on depression, interpersonal sensitivity, somatization, ETW:P-P, extrinsic personal, MCROS Intrinsic, and Religious Interest ratings (*betas* = .11 to .19, *p*'s < .05). Men were higher on the extrinsic residual (*beta* =

–.11, $p < .05$) and extrinsic social (*beta* = –.14, $p < .05$) variables. In none of these analyses did the gender and sample variables interact.

DISCUSSION

The present project sought to extend the Allportian research tradition in three most basic ways. First and most important, the cross-cultural validity of Allport's intrinsic and extrinsic religious orientations was assessed by comparing a largely Christian American sample with Iranian Muslims, a religious group not examined in previous research. Secondly, this cross-cultural analysis relied not only on use of the Allport and Ross (1967) Religious Orientation scales, but also on a new instrument, the MCROS, which attempted to operationalize religious motivation with greater conceptual precision (Gorsuch, 1994). Finally, development of the MCROS remained sensitive to recent suggestions that the extrinsic motivation is more complex than Allport originally assumed (Kirkpatrick, 1989; Pargament, 1992).

Numerous findings supported the cross-cultural validity of Allport's basic conceptual framework. As Allport would have hypothesized, extrinsicness in the Iranian Muslim sample correlated more strongly with maladjustment, and intrinsicness predicted adjustment. Indeed, an examination of the Iranian MCROS data after partialing out one and then the other Allport and Ross scale produced even clearer evidence that intrinsicness was associated with healthier and extrinsicness with more unhealthy psychological functioning. Factor analyses in both samples confirmed the existence of two dimensions of religious motivation with one tending to be more intrinsic and the other more extrinsic. At the same time, these factors argued against Allport's initial interpretation of extrinsicness as the polar opposite of intrinsicness. Some MCROS scales, for example, displayed strong loadings on both religious orientation factors.

The Allport and Ross scales were less successful in predicting adjustment with the American sample, but stronger linkages with mental health have been observed with similar participants in the past (e.g., Watson, Milliron, Morris, & Hood, 1995). These previous studies, however, did not use the particular psychopathology measures employed here. In addition, diversity in the religious motivation of U.S. samples can influence the likelihood of obtaining predicted outcomes, with this effect occurring in a manner consistent with Allport's thought (Morris, Hood, & Watson, 1989; Watson, Morris, & Hood, 1989). Such diversity may have been an influential factor with this particular group of Americans.

This project also tested the suggestion that an extrinsic religious motivation may sometimes have beneficial effects (Pargament, 1992). At least theoretically, an extrinsic orientation for cultural reasons seemed, in particular, to have more positive implications for adjustment. No zero-order or partial correlations supported this idea, and the data instead presented an overwhelmingly negative depiction of

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extrinsicness. In the multiple regressions, however, the ETW:C-P scale served as an inverse predictor of depression in the Iranians. Multiple regressions for the Americans also uncovered inverse associations of the ETW:S-P scale with depression and with obsessive-compulsion. The possibility that religious extrinsicness has positive potentials, therefore, may deserve additional research consideration.

Another hypothesis was that associations with maladjustment would be more obvious when religion was used for negatively rather than positively reinforcing purposes. A few findings supported this proposal. In the Iranian but not the American sample, ETW:P-N exhibited more extensive and slightly stronger correlations with psychological dysfunction than did ETW:P-P. A similar, although less obvious pattern was evident in contrasts between EOW:N and EOW:P and to a lesser degree between ETW:S-N and ETW:S-P. In both samples, partial correlations and multiple regressions also suggested that the ETW:P-N scale was especially noteworthy in describing linkages of religion with maladjustment.

A final hypothesis was that religion would be more important in the less secularized Iranian society. Contrasts in language, philosophical assumptions, political beliefs, and tendencies toward self-disclosure are only a few among the many challenges associated with attempts to understand such data. Interpretative caution, therefore, undoubtedly makes sense. Nevertheless, women contrasted with men on three psychological and six religious measures, and in no instance did the gender and sample variables interact. Hence, these data revealed that questionnaires were read with at least some common interpretative processes being employed across the two samples. An examination of sample differences, therefore, did not seem to be wholly indefensible, especially with the theology majors excluded from the Iranian sample.

All kinds of influences could have explained the higher Iranian scores on five of the six psychological symptoms. Especially notable, perhaps, was the economically more privileged situation of the Americans. Iranians displayed higher values on nine measures of religious motivation, and religious variables were a much more obvious predictor of Iranian mental health. These outcomes suggested that religion did indeed exert a stronger influence on the Iranians and conversely, perhaps, that religion was a much more compartmentalized feature of American psychological functioning.

Cross-cultural contrasts in religious motivation occurred within the surprising context of no difference in the Religious Interest ratings. This outcome perhaps violated stereotypes of Iran as a strikingly more religious society and of Americans as a completely secular people with little or no interest in religion. These ratings may have revealed instead that the two societies shared a religious potential, which was actualized more strongly within the Iranian context. Another possibility was that Western religious potentials were expressed less exclusively within the monotheistic frameworks measured by this project. Finally, Americans displayed higher EOW:P scores, and, in light of all the other religious contrasts, this outcome in par-

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ticular may have reflected fundamental differences in theological assumptions that seem to deserve more detailed consideration in future research.

The numerous limitations of this investigation dictate a clear need for tentativeness in drawing any conclusions from the present data. Again, more than just differences in religion existed across the two samples, with linguistic, philosophical, psychological, political, and economic contrasts deserving reemphasis. In addition, the Iranian students were slightly older than the Americans, which may have had meaningful implications for the religious development of these relatively young adults. Even more obviously, the presence of theology majors in the Iranian but not the American sample was directly relevant to the issue of religious motivation. Still, a greater tendency to major in theology presumably reflects processes operating in Iranian cultural life, and a removal of theology students from all of the analyses ran the risk of making the Iranian sample less representative of the population as a whole. Resolution of this problem clearly requires additional studies that examine both theology and nontheology students from the United States as well as from Iran.

An even more fundamental limitation was intentionally built into the design of this study. The purpose of this project was not to offer a definitive analysis of religious motivation in Iran and the United States. Rather, the goal was to establish a preparatory empirical foundation on which later, more conclusive cross-cultural studies could be constructed. For that reason, development of the MCROS rested on a conceptual analysis that led to the identification of broad categories of questionnaire items that seemed relevant to both Muslim and Christian religion. The contrast between this-worldly and other-worldly motivations, for example, seemed to be integral to both traditions. However, none of the MCROS measures were established formally by factor analysis as separate components of religious orientation. These MCROS data instead were designed to be more preliminary in nature and to serve as prompts for additional research.

Some of that additional research has already begun. First, the ETW:P-N variable seemed to be an especially promising construct in that it displayed the clearest incremental validity as a predictor of psychological symptoms. In response to that observation, the ETW:P-N items are being administered to additional samples of Iranian and American students with the goal of refining the measure and relating it to other operationalizations of psychological adjustment. Second, the idea that the Extrinsic-Cultural scales may have positive implications for adjustment received little empirical support in the present project. Nevertheless, the absence of such findings perhaps resulted from a failure to examine the appropriate potential correlates. That possibility is currently being examined in a study of American students responding to these two scales along with such seemingly more relevant constructs as alienation, collective self-esteem, and social responsibility.

In conclusion, this study once again confirmed that empirical methods can be useful in fostering a dialogue between cultures that have strikingly different ideo-

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logical foundations (Watson, 1993). A further point deserving emphasis is that this project served as the first systematic, empirical study of the psychology of religion in Iran. Investigations into Iranian religion have obvious potential for supplying insights into the psychology of religion, and Allport's conceptualizations clearly seemed pertinent in that measures of both intrinsicness and extrinsicness were valid predictors of Iranian psychological functioning. The Allportian framework along with the Allport and Ross and the new MCROS scales, therefore, seemed to offer a useful foundation for studying religious motivation not only in Western and in Muslim societies, but also in comparisons between the two.

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