

# The Religious Commitment Inventory—10: Development, Refinement, and Validation of a Brief Scale for Research and Counseling

Everett L. Worthington, Jr., Nathaniel G. Wade, and  
Terry L. Hight  
Virginia Commonwealth University

Jennifer S. Ripley  
Regent University

Michael E. McCullough  
Southern Methodist University

Jack W. Berry and Michelle M. Schmitt  
Virginia Commonwealth University

James T. Berry  
Ebenezer Counseling Services

Kevin H. Bursley  
University of Pittsburgh

Lynn O'Connor  
The Wright Institute

The authors report the development of the Religious Commitment Inventory—10 (RCI-10), used in 6 studies. Sample sizes were 155, 132, and 150 college students; 240 Christian church-attending married adults; 468 undergraduates including (among others) Buddhists ( $n = 52$ ), Muslims ( $n = 12$ ), Hindus ( $n = 10$ ), and nonreligious ( $n = 117$ ); and 217 clients and 52 counselors in a secular or 1 of 6 religious counseling agencies. Scores on the RCI-10 had strong estimated internal consistency, 3-week and 5-month test-retest reliability, construct validity, and discriminant validity. Exploratory (Study 1) and confirmatory (Studies 4 and 6) factor analyses identified 2 highly correlated factors, suggesting a 1-factor structure as most parsimonious. Religious commitment predicted response to an imagined robbery (Study 2), marriage (Study 4), and counseling (Study 6).

Interest in religion and spirituality has increased dramatically recently both within culture in general and within psychology. Substantial literatures now describe connections between religion and mental health (Miller, 1999; Richards & Bergin, 1997, 2000; Shafranske, 1996) and between religion and physical health

(George, Larson, Keonig, & McCullough, 2000; Koenig, McCullough, & Larson, 2001; Plante & Sherman, 2001). These research findings are relevant for counseling and counseling health psychology.

Religion and spirituality have been hypothesized to affect both the process (Richards & Bergin, 1997) and the outcomes (e.g., increased mental and physical health; George et al., 2000; Koenig et al., 2001; Larson, Swyers, & McCullough, 1998) of counseling. According to the consensus document from the National Institute for Healthcare Research (Hill et al., 1998), *spirituality* is defined as “the feelings, thoughts, experiences, and behaviors that arise from a search for the sacred” (p. 21). Hill et al. (1998) defined *religion* as

(a) the feelings, thoughts, experiences, and behaviors that arise from a search for the sacred . . . and/or (b) a search or quest for a non-sacred goal (such as identity, belongingness, meaning, health, or wellness) in a context that has [as] its primary goal the facilitation of (a), and (c) the means and methods (e.g., rituals or prescribed behaviors) of the search that receive validation and support from within an identifiable group of people. (p. 21)

Substantial research supports the generally positive, yet sometimes negative, impact of religion on mental health (for reviews, see Koenig et al., 2001; McCullough, Larson, & Worthington, 1998) and on physical health (for reviews, see Koenig et al., 2001). Furthermore, there is evidence that religious considerations are

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Everett L. Worthington, Jr., Nathaniel G. Wade, Terry L. Hight, Jack W. Berry, and Michelle M. Schmitt, Department of Psychology, Virginia Commonwealth University; Jennifer S. Ripley, Department of Psychology, Regent University; Michael E. McCullough, Department of Psychology, Southern Methodist University; James T. Berry, Ebenezer Counseling Services, Knoxville, Tennessee; Kevin H. Bursley, Counseling Center, University of Pittsburgh; Lynn O'Connor, Department of Psychology, The Wright Institute.

Michael E. McCullough is now at the Department of Psychology, Miami University.

Portions of this research were funded by John Templeton Foundation Grant 239 to Everett L. Worthington, Jr., and by an internal grant from Virginia Commonwealth University's College of Humanities and Sciences to Nathaniel G. Wade. We express our gratitude to Lisa Schreindorfer for her helpful comments on earlier drafts of this article. We also acknowledge the assistance of the directors of the seven agencies that allowed their counselors and clients to participate in this research.

Correspondence concerning this article should be addressed to Everett L. Worthington, Jr., Thurston House, 808 West Franklin Street, P.O. Box 842018, Virginia Commonwealth University, Richmond, Virginia 23284-2018. E-mail: eworth@vcu.edu

important in psychotherapeutic interventions (Thoresen et al., 1998; Worthington, Kuru, McCullough, & Sandage, 1996; Worthington & Sandage, 2002). In contrast to research on religion and mental health, physical health, and counseling interventions, little evidence supports the impact of spirituality on mental health, physical health, and interventions (Pargament, 1997; Pargament & Mahoney, 2002).

Most scholars of religion now agree that religion often positively affects mental health, but recent questions of interest have become more specific. Who does religion affect positively and under what conditions? Who does religion affect negatively and under what conditions? Worthington (1988) suggested a model addressing such questions. He theorized that people who were highly religiously committed tended to evaluate their world on religious dimensions based on their religious values. He hypothesized that because of the history of religious conflicts in doctrine, religious people within a Western religious tradition evaluated their world on three dimensions: authority of scripture or sacred writings, authority of ecclesiastical leaders, and degree of identity with their religious group. He further hypothesized that people in relationships (notably counseling relationships) had zones of toleration for different values on those three dimensions, such that when a client encountered a counselor whose values were perceived to be outside of the client's zone of toleration, the client would be likely to (a) resist counseling or (b) prematurely exit counseling. Aspects of this model have received empirical support in counseling analogue and survey research (for a review, see Worthington et al., 1996).

The key variable in Worthington's (1988) model is *religious commitment*, which is defined as the degree to which a person adheres to his or her religious values, beliefs, and practices and uses them in daily living. The supposition is that a highly religious person will evaluate the world through religious schemas and thus will integrate his or her religion into much of his or her life. It has been hypothesized that highly religious people, to which this model applies, are those who are within the most religiously committed 15% of the population (i.e., at least one standard deviation higher than the mean). Differences have been found between such people and those who are moderately to less religiously committed (see Worthington et al., 1996, for a review).

Religious commitment has been operationalized and measured in several ways, including membership or nonmembership in religious organizations, the degree of participation in religious activities (such as frequency of attending church), the attitudes and importance of religious experience, and belief in traditional religious creeds (Hill & Hood, 1999). Recently, a brief measure of religious commitment was published, but little psychometric support was adduced (Mockabee, Monson, & Grant, 2001). The Dimensions of Religious Commitment (Glock & Stark, 1966) operationalizes Glock and Stark's (1966) five-factor model of religious commitment. Two major drawbacks of Glock and Stark's Dimensions of Religious Commitment inventory and others such as King and Hunt's (1969) Basic Religious Scales (for a summary, see Hill & Hood, 1999) are that they (a) were developed for use with individuals within the Judaic and Christian traditions and (b) focus in large part on the degree to which a person believes in and adheres to traditional doctrines. A third drawback is relevant for their use in counseling—they are relatively lengthy. Furthermore, over the years, several behaviors have been reliably identified as

good measures of religious commitment or intrinsic religious motivation. Thus, several instruments have used similar items (Allport & Ross, 1967; Gorsuch & McPherson, 1989; Hoge, 1972; King & Hunt, 1969). We have not deviated from this tradition; thus, several items (noted on the scale in Table 2) share similarities with some items from other instruments.

In the present article, we report six studies that describe the development of a 10-item measure of religious commitment, the Religious Commitment Inventory—10 (RCI-10). The RCI-10, which is consistent with Worthington's (1988) model of religious values in counseling, was constructed to be both a brief screening (Level 1) assessment of religious commitment and an ecumenical assessment of religious commitment (Richards & Bergin, 1997). The RCI-10 was based on earlier 62-item (see Sandage, 1999, for a review), 20-item (McCullough & Worthington, 1995; Morrow, Worthington, & McCullough, 1993), and 17-item (RCI-17; McCullough, Worthington, Maxie, & Rachal, 1997) versions. Because it will be used in research, counseling, and health psychology, the most efficient and psychometrically sound instrument possible should be developed. Whereas in religious assessment there has been a history of using single-item measures that have shown evidence of having some predictive, concurrent, and construct validity, such items have shown weaknesses that argue for development of stronger measures (Gorsuch, 1984). The present series of programmatic studies seeks to shorten and refine the RCI-17 and to provide adequate psychometric data to support its use in counseling and research. The RCI-17 has limited psychometric support on the basis of a single study (McCullough et al., 1997). In addition, shortening the scale but maintaining excellent psychometric support would save time in research protocols. Clinically, it would save time by cutting the number of items nearly in half. That is important not only to save clients money and counselors time but also to encourage more counselors to invest a relatively short time in assessing religious commitment—when it is hypothesized to potentially play a role in counseling.

#### Study 1: Refinement of the 17-Item Scale to a 10-Item Scale Plus Initial Reliability and Validity Data

The purpose of Study 1 was to refine further the RCI-17 (McCullough et al., 1997) to a shorter version and to evaluate psychometric properties of the revised version. Because the RCI has been refined several times previously, Study 1 should not be viewed as a single effort to refine but as the culmination of a program of research leading to the RCI-10 (McCullough & Worthington, 1995; McCullough et al., 1997; Morrow et al., 1993; Worthington, 1988; Worthington et al., 1989, 2001). Earlier versions of the RCI were part of previous research that used college samples. We combined the data from those previous published studies ( $N = 751$ ) for normative purposes. The mean score was 23.1 ( $SD = 10.2$ ; see Appendix A).

In Study 1, we examined the RCI-10's underlying factor structure (using exploratory factor analytic methods) and 3-week test-retest reliability of the scores. In investigating different criteria for validity of scores on the RCI-10, we hypothesized that scores on the RCI-10 (full scale and subscales) would be correlated with other measures of a highly ranked religious value and to a single-item measure of religiosity. We also hypothesized that scores on the RCI-10 would be nonsignificantly correlated to scores on

measures of morality and spirituality. We investigated whether differences in gender and ethnicity might occur.

### Method

#### Participants

Volunteers ( $N = 155$ ) from undergraduate psychology classes at a large urban university in the Mid-Atlantic United States completed and returned questionnaires of religious values. Volunteers received credit toward class research requirements for participating. Demographic data are summarized in Table 1.

#### Instruments

*RCI-17.* The RCI-17 is based on Worthington's (1988) theory of religious values. McCullough et al. (1997) found that 17 of 20 items earlier found to measure religious commitment loaded on one factor, which they renamed the Religious Commitment Inventory (RCI-17). The RCI-17 demonstrated high internal consistency ( $\alpha = .94$ ) and was strongly correlated with other measures of religious motivation and belief for their sample of college students (McCullough et al., 1997).

*Rokeach's Value Survey (Rokeach, 1967).* The Rokeach Value Survey includes two sets of 18 values that are ranked in importance according to one's value system—terminal and instrumental values. For the purpose of differentiating participants into religious and nonreligious groups, we asked participants to rank their top five terminal values, which Rokeach (1967) had done consistently in previous research. Rokeach has shown that people ranking salvation highly are characterized by high religious commitment on several indices. If *salvation* was included in their top five terminal values, participants in a general (largely culturally Christian) sample were coded as religious; if not, as nonreligious. This treatment of Rokeach's rank-order data followed Rokeach's lead, Worthington's (1988)

theorizing, and considerable research (see Worthington et al., 1996, for a review).

*Visions of Everyday Morality Scale (VEMS).* Shelton and McAdams (1990) developed the VEMS to measure tendency for prosocial behavior in ordinary life. The 45-item VEMS measures everyday morality in three spheres (private, interpersonal, and social). Shelton and McAdams found the VEMS to correlate with empathy and liberalism. In the present study, the VEMS was modified to 21 items (7 items taken from each of the three morality domains) that had estimated moderate-to-strong internal consistency (mean  $\alpha = .78$ ).

*Religiosity, spirituality, and demographic questionnaire.* Participants indicated their level of religiosity and spirituality on three 5-point Likert-type items (from 1 = *not at all* to 5 = *totally*). Participants endorsed their agreement to the following statement: "If *religiosity* is defined as participating with an organized religion, then to what degree do you consider yourself religious?" Other items were as follows: "If *spirituality* is defined as a belief and participation in some transcendental realm, then to what degree do you consider yourself spiritual" and "If *spirituality* is defined as qualities and characteristics of exemplary humanity (e.g., honesty, hope, compassion, love of humanity, etc.), then to what degree do you consider yourself spiritual?" Those two types of spirituality were suggested by Martin Marty (cited in Koenig et al., 2001). Additionally, participants indicated the frequency of attending religious activities. Gorsuch (1984) showed that single-item measures of religiosity often account for a large portion of variance of longer scales.

#### Procedure

Participants were recruited in introductory psychology classes. They received credit of less than 1% of their grade for participating. They completed each of the questionnaires at home and returned questionnaires during subsequent class periods. Of 200 packets that were distributed, 155 (78%) were returned sufficiently complete for analyses. After 3 weeks, 119

Table 1  
Descriptive Data for Demographics of Participants in Each Study

Demographic	Study 1	Study 2	Study 3	Study 4	Study 5	Study 6	
						Client	Counselor
<i>N</i>	155	132	150	190	468	217	52
Age (years)							
<i>M</i> ( <i>SD</i> )	19.1 (3.2)	19.4 (3.5)	22.0 (6.1)	39.9 (12.3)	20.2 (3.0)	35.5 (12.2)	37.2 (11.8)
Median	18.0	18.0	21.0	38.0	19.0	36.0	34.0
Range	16.0–40.0	17.0–41.0	19.0–69.0	18.0–78.0	18.0–36.0	14.0–74.0	23.0–61.0
Ethnicity							
African American	27.8	22.7	0.0	14.0	4.0	11.1	3.9
Asian American	11.4	15.9	0.7	4.0	47.8	2.8	0.0
Caucasian	50.0	59.1	93.3	80.0	22.4	81.9	94.1
Hispanic	2.5	0.8	1.3	0.0	11.7	1.9	0.0
Other (or did not report)	8.2	0.8	4.6	2.0	14.1	2.3	2.0
Gender							
Female	75.9	70.5	63.9	58.0	67.0	71.4	72.5
Male	24.1	29.5	36.1	42.0	33.0	28.6	27.5
Religious orientation							
Buddhist	—	3.0	0.0	0.0	11.1	—	—
Catholic	—	15.1	9.0	2.0	36.8	—	—
Hindu	—	1.5	0.0	0.0	1.8	—	—
None	—	21.3	0.0	0.0	25.1	—	—
Protestant	—	59.1	91.0	98.0	15.8	—	—
Muslim	—	0.0	0.0	0.0	2.5	—	—
Christian	—	—	—	—	6.9	—	—

*Note.* Ethnicity, gender, and religious orientation are reported as a percentage of the total sample size for that study. Note that extreme care in interpreting these norms is recommended because some sample sizes are small. A dash indicates that specific data were not collected.

of the participants completed and returned a subsequent packet containing the RCI-17. Participants were debriefed after returning the second questionnaire.

Participants who completed the initial questionnaire but failed to return the second questionnaire were compared with individuals who completed both packets. No differences were found on gender,  $X^2(1, N = 155) = 0.09, p > .77$ ; age,  $F(1, 152) = 1.57, p > .21$ ; race,  $X^2(4, N = 155) = 4.50, p > .34$ ; initial RCI-17,  $F(1, 152) = 1.39, p > .24$ ; or religiosity on Rokeach's Value Survey,  $X^2(1, N = 155) = 1.65, p > .19$ . We concluded that the groups were similar on our variables of interest and no further distinction was made between the groups.

## Results

### Principal-Axis Factor Structure

Scores on all 17 items of the initial administration of the RCI-17 were analyzed by using principal-axis factor analysis with an orthogonal (varimax) rotation. The principal-axis factor analysis indicated three factors with eigenvalues greater than 1.0. Items were retained for further analysis (a) if they had a factor loading of .60 or higher on a factor and (b) if the factor loading was at least .15 higher than loadings on other factors. Ten of those initial 17 items were retained.

A second principal-axis factor analysis (with varimax rotation) was performed on the remaining 10 items, which we henceforth call the "RCI-10." Two factors with eigenvalues greater than 1.0 were found; they accounted for 72.0% of total item variance. Means, standard deviations, factor loadings, and communalities of each item of the RCI-10 are reported in Table 2. An intercorrela-

tion matrix is reported in Table 3. The full-scale mean was 23.6 ( $SD = 10.8$ ). Factor 1 (eigenvalue = 6.20) had 6 items, which accounted for 62.0% of the common variance. This factor represents Intrapersonal Religious Commitment (largely cognitive). The mean was 14.7 ( $SD = 7.1$ ). Factor 2 (eigenvalue = 1.01) had 4 items and accounted for 10.1% of the common variance. This factor represents Interpersonal Religious Commitment (largely behavioral). The mean was 9.0 ( $SD = 4.5$ ).

### Internal Consistency and Subscale Intercorrelations

The coefficient alphas for the new RCI-10 and subscales were .93 for the full scale, .92 for Intrapersonal Religious Commitment, and .87 for Interpersonal Religious Commitment. A Pearson correlation coefficient was calculated to determine the subscale intercorrelation. Intrapersonal Religious Commitment was highly correlated with Interpersonal Religious Commitment,  $r(154) = .72, p < .001$ .

### Three-Week Test-Retest Reliability

Pearson correlation coefficients were calculated by using scores on the full-scale RCI-10 and each subscale for the first administration and the second administration. The 3-week test-retest reliability coefficients for the full-scale RCI-10, Intrapersonal Religious Commitment, and Interpersonal Religious Commitment were .87, .86, and .83, respectively.

Table 2  
Items, Factor Loadings, Item Means, Standard Deviations, and Communalities for the Religious Commitment Inventory—10 (Study 1)

Item	Factor loadings		<i>M</i>	<i>SD</i>	<i>h</i> <sup>2</sup>
	1	2			
5. My religious beliefs lie behind my whole approach to life. <sup>a</sup>	<b>.81</b>	.34	2.56	1.51	.72
3. I spend time trying to grow in understanding of my faith.	<b>.78</b>	.30	2.49	1.31	.64
8. It is important to me to spend periods of time in private religious thought and reflection.	<b>.76</b>	.32	2.52	1.36	.64
7. Religious beliefs influence all my dealings in life.	<b>.67</b>	.48	2.25	1.37	.67
4. Religion is especially important to me because it answers many questions about the meaning of life.	<b>.66</b>	.47	2.89	1.56	.64
1. I often read books and magazines about my faith.	<b>.59</b>	.32	1.96	1.16	.48
9. I enjoy working in the activities of my religious organization. <sup>b</sup>	.31	<b>.83</b>	2.34	1.36	.66
6. I enjoy spending time with others of my religious affiliation.	.35	<b>.73</b>	2.64	1.46	.61
10. I keep well informed about my local religious group and have some influence in its decisions. <sup>b</sup>	.39	<b>.71</b>	1.75	1.15	.64
2. I make financial contributions to my religious organization.	.31	<b>.62</b>	2.24	1.32	.47

Note. Values in boldface type are factor loadings at or above the criteria for selection. Factor loadings: 1 = Intrapersonal Religious Commitment; 2 = Interpersonal Religious Commitment. The exploratory factor analysis is for the 10 items retained after eliminating 7 items from the Religious Commitment Inventory—17 (the form in which the instrument was administered). Each item is rated as 1 = *not at all true of me*, 2 = *somewhat true of me*, 3 = *moderately true of me*, 4 = *mostly true of me*, or 5 = *totally true of me*.

<sup>a</sup> Adapted from Hoge (1972). <sup>b</sup> Adapted from King and Hunt (1969).

Table 3

*Intercorrelations of Participant Characteristics, Religious Commitment Inventory—10 (RCI-10) Intrapersonal Religious Commitment, Intrapersonal Religious Commitment, Rokeach Religiosity, Single-Item Measures of Religiosity and Spirituality, and Morality (Study 1)*

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	—											
2. Gender	.05	—										
3. Ethnicity	.04	-.16	—									
4. RCI-10	-.01	-.13	-.01	(.87)								
5. Intrapersonal religious commitment	.01	-.10	-.01	.96*	(.86)							
6. Interpersonal religious commitment	-.04	-.14	-.05	.89*	.72*	(.83)						
7. Rokeach religiosity	.09	-.08	-.10	.54*	.52*	.48*	—					
8. Participation in organized religion	.08	-.08	-.06	.70*	.60*	.74*	.47*	—				
9. Frequency of religious activities	-.04	-.09	-.10	.72*	.63*	.73*	.43*	.76*	—			
10. Spirituality—participation	.03	-.09	.09	.58*	.60*	.46*	.40*	.46*	.47*	—		
11. Spirituality—exemplary humanity	.00	-.12	.07	.18	.20	.13	.09	.07	.18	.27*	—	
12. Morality	.07	.24*	.11	.09	.10	.06	.11	-.02	.27*	.05	.27*	—

Note.  $N = 155$ . Gender: 0 = female and 1 = male. Ethnicity is coded 0 = Caucasian and 1 = all others. Numbers in parentheses across the diagonal represent 3-week test-retest reliability coefficients,  $n = 119$ .

\* Bonferroni-corrected  $p < .003$ .

### Construct Validity

Intercorrelations of all scales are summarized in Table 3. To assess the construct validity of scores on the RCI-10, we conducted a one-way analysis of variance (ANOVA) by using participants' endorsement of salvation on Rokeach's Value Survey as the independent variable (top 5 = high religiosity; rank 6–18 = lower religiosity) and scores on RCI-10 (full scale and two subscales) as dependent variables. Scores on the full-scale RCI-10 were significantly higher for religious individuals as denoted by ranking of salvation among the top 5 values ( $M = 31.1$ ) than for nonreligious individuals ( $M = 19.1$ ),  $F(1, 152) = 60.93$ ,  $p < .0001$ . Significant differences existed between the religious groups for both Intrapersonal Religious Commitment,  $F(1, 152) = 56.34$ ,  $p < .0001$ , and Interpersonal Religious Commitment,  $F(1, 152) = 43.02$ ,  $p < .0001$ .

Additionally, we used Pearson correlation coefficients to examine the relationship of the RCI-10 (full scale and subscales) and scores of endorsement of the single-item measures of religiosity and spirituality. For each pairwise significance test, we used a Bonferroni-corrected alpha level of .003. The full-scale RCI-10, Intrapersonal Religious Commitment, and Interpersonal Religious Commitment were significantly correlated with the single-item measure of participation in religion,  $r(154) = .70$ ,  $p < .0001$ ;  $r(154) = .60$ ,  $p < .0001$ ; and  $r(154) = .74$ ,  $p < .0001$ , respectively. Full-scale RCI-10, Intrapersonal Religious Commitment, and Interpersonal Religious Commitment were likewise correlated with self-rated spirituality as participation in some transcendental realm,  $r(154) = .58$ ,  $p < .0001$ ;  $r(154) = .60$ ,  $p < .0001$ ; and  $r(154) = .46$ ,  $p < .0001$ , respectively.

### Discriminant Validity

We used Pearson correlation coefficients to examine the relationship of the RCI-10 with scores of endorsement of the single-item measure of spirituality as exemplary human characteristics. The full-scale RCI-10, Intrapersonal Religious Commitment, and Interpersonal Religious Commitment were not correlated with this

single-item measure of spirituality as defined as exemplary human characteristics,  $r(154) = .18$ ,  $p = .03$ ,  $ns$ ;  $r(154) = .20$ ,  $p = .01$ ,  $ns$ ; and  $r(154) = .12$ ,  $p = .14$ ,  $ns$ , respectively.

We also examined the discriminant validity of the RCI-10 by calculating three Pearson correlation coefficients—one each for the full-scale RCI-10, Intrapersonal Religious Commitment, and Interpersonal Religious Commitment with scores on the VEMS. Morality was not significantly related to religious commitment as measured by the full-scale RCI-10,  $r(154) = .09$ ,  $p = .26$ ,  $ns$ ; Intrapersonal Religious Commitment,  $r(154) = .10$ ,  $p = .26$ ,  $ns$ ; or Interpersonal Religious Commitment,  $r(154) = .07$ ,  $p = .42$ ,  $ns$ .

### Criterion-Related Validity

To assess the criterion-related validity, we calculated three Pearson correlation coefficients—one each for the full-scale RCI-10, Intrapersonal Religious Commitment, and Interpersonal Religious Commitment and frequency of attendance of religious activities. Frequency of attendance of religious activities was significantly related to scores on the RCI-10,  $r(154) = .70$ ,  $p < .0001$ ; Intrapersonal Religious Commitment,  $r(154) = .60$ ,  $p < .0001$ ; and Interpersonal Religious Commitment,  $r(154) = .73$ ,  $p < .0001$ , respectively.

### Gender and Ethnicity

Even though we had a sample of only 155 and interpretations of results must necessarily be tentative, we performed  $2 \times 3$  (Men vs. Women  $\times$  African American vs. Asian American vs. Caucasian) ANOVAs by using the full-scale RCI-10, Intrapersonal Religious Commitment, and Interpersonal Religious Commitment as dependent variables to determine whether participants' scores differed by gender or ethnicity. For the full-scale RCI-10, there was no Gender  $\times$  Ethnicity interaction,  $F(2, 136) = 0.32$ ,  $p = .73$ , or main effect for gender,  $F(1, 136) = 0.57$ ,  $p = .45$ . There was a main effect for ethnicity,  $F(2, 136) = 4.55$ ,  $p = .01$ . Post hoc analysis,

using Tukey's honestly significant difference (HSD) test, revealed that African American individuals scored higher on the full-scale RCI-10 ( $M = 28.6$ ) than did Asian American participants ( $M = 22.1$ ) and Caucasian participants ( $M = 21.5$ ), who did not differ.

Similar results occurred for the  $2 \times 3$  (Men vs. Women  $\times$  African American vs. Asian American vs. Caucasian) ANOVAs when Intrapersonal Religious Commitment and Interpersonal Religious Commitment were used as dependent measures. For the Intrapersonal Religious Commitment subscale, there was no Gender  $\times$  Ethnicity interaction,  $F(2, 136) = 0.30, p = .74$ , or main effect for gender,  $F(1, 136) = 0.20, p = .66$ . There was a main effect for ethnicity,  $F(2, 136) = 3.13, p = .05$ . Post hoc analysis, using Tukey's HSD test, revealed that African American individuals scored higher on the Intrapersonal Religious Commitment subscale ( $M = 17.4$ ) than did Asian American participants ( $M = 13.6$ ) and Caucasian participants ( $M = 13.7$ ), who did not differ. For the Interpersonal Religious Commitment subscale, there was no Gender  $\times$  Ethnicity interaction,  $F(2, 136) = 0.24, p = .78$ , or main effect for gender,  $F(1, 136) = 1.00, p = .32$ . There was a main effect for ethnicity,  $F(2, 136) = 5.21, p = .007$ . Post hoc analysis, using Tukey's HSD test, revealed that African American individuals scored higher on the Interpersonal Religious Commitment subscale ( $M = 11.0$ ) than did Asian American participants ( $M = 8.6$ ) and Caucasian participants ( $M = 7.8$ ), who did not differ.

### Study 2: Concurrent Validity of Scores on the RCI-10

The purpose of the second study was to provide a replication of estimates of the internal consistency of the items and the construct validity, as well as to evaluate the concurrent validity of scores on the RCI-10 per se within a research application. As a measure of religious commitment, the RCI-10 should be able to distinguish between people with high religious commitment versus those that are not as highly committed. Those who are highly committed to their religion were expected to respond to particular people and situations differently than comparable individuals with less religious commitment.

One example of a situation in which religious commitment might affect the way one responds is being a victim of a crime. In a review of the criminal justice literature, Applegate, Cullen, Fisher, and Vander Ven (2000) suggested that religion—especially religious fundamentalist beliefs and compassionate religious beliefs—are strongly related to attitudes toward crime and to personal responses to crime. Following the lead of Applegate et al., we conducted a scenario-based study to see whether we could identify different imagined responses toward a criminal on the basis of religious commitment as measured by the RCI-10. Religious commitment was expected to influence how individuals deal with a crime that happens to them. Individuals high in religious commitment were expected to have more empathy for the hypothetical criminal and less motivation to seek revenge. Furthermore, highly religious individuals were expected to use more religious behaviors (e.g., prayer) and language in their reactions to the crime than less religiously committed individuals.

## Method

### Participants

Volunteers ( $N = 132$ ) from undergraduate psychology classes at a large urban university in a Mid-Atlantic state in the United States participated. See Table 1 for demographic information.

### Instruments

*Demographics, single-item questions, and the RCI-10.* Participants indicated their age, gender, ethnicity, relationship status, and religious affiliation as part of the demographic information. They indicated the number of religious services that they attend on the following scale: 0 = none, 1 = one a year, 2 = a few times a year, 3 = one a month, 4 = one a week, and 5 = more than one a week. They also completed the two other questions that assessed their religious commitment and the intensity of their spiritual lives. Each was on a 5-point scale that ranged from 0 = not at all to 4 = totally. Participants completed the RCI-10 in its final form.

*Batson's Empathy Adjectives.* Empathy for the robber was measured with Batson's Empathy Adjectives (Batson, O'Quin, Fultz, Vanderplas, & Isen, 1983). Batson's Empathy Adjectives, developed by Batson et al. (1983), measure empathy for a particular person at the time the questionnaire is completed. Participants read eight words describing emotions and rated on a 6-point scale (ranging from 1 = not at all to 6 = extremely) the degree to which they currently felt each emotion toward a robber in response to the information given in a postrobbery scenario. Estimates of internal reliability by using Cronbach's alpha have ranged for this scale from .79 to .95 (Batson et al., 1983). For the current sample, the internal consistency was estimated to be adequate (Cronbach's  $\alpha = .85$ ).

*Revenge subscale of the Transgression-Related Interpersonal Motivations (TRIM) Inventory.* Participants' motivation to seek revenge against the robber was measured with the Revenge subscale of the TRIM (McCullough et al., 1998). The TRIM is a 12-item scale that measures a victim's motivation to seek revenge against and to avoid an offender. The inventory is thus scored on two subscales: Revenge (5 items) and Avoidance (7 items). Items are measured on a 5-point Likert-type scale (1 = strongly disagree to 5 = strongly agree), producing a possible range on the Revenge subscale between 5 (low revenge) and 25 (high revenge). Estimates for the internal consistency reliability for the Revenge subscale were high (Cronbach's alphas ranged from .83 to .94; McCullough et al., 1998). The internal reliability for the Revenge subscale with the current sample was .85 (Cronbach's alpha). Corrected item-total correlations ranged from .65 to .74.

### Procedure

Participants attended 1-hr research sessions in groups of 10–20 people. They completed a questionnaire-scenario packet. First, participants completed the demographics questions and the RCI-10. Then, they read a scenario that described their return to their apartment or home where they discovered that their place had been broken into and they had been robbed. The hypothetical robber took a watch, wallet, and approximately \$50 in cash. Participants were to imagine that the crime described had actually happened to them. After they read the scenario, they wrote an open-ended description how they would be "thinking and feeling if this actually happened" to them. Next, they completed the Batson Empathy Adjectives and the TRIM.

## Results

The mean score for the RCI-10 was 25.7 ( $SD = 11.9$ ). The mean score for the Intrapersonal subscale was 15.9 ( $SD = 7.3$ ) and for the Interpersonal subscale, 9.8 ( $SD = 5.1$ ) (see Appendix A).

Three independent sample *t* tests, corrected for inequality of variances when appropriate, were conducted to determine whether these values were different from the means from the archival data. A modified alpha level of .016 was used to control for familywise error. Scores on the RCI-10 were not significantly different from scores based on the data collected over 7 years (see archival data in Appendix A): the full scale,  $t(165) = 2.34, ns$ ; the Intrapersonal subscale,  $t(838) = 2.24, ns$ ; and the Interpersonal subscale,  $t(162) = 2.22, ns$ .

### Psychometric Replication

Cronbach's alphas for the RCI-10 and subscales were .96 for the full scale, .94 for Intrapersonal Religious Commitment, and .92 for Interpersonal Religious Commitment. A Pearson correlation coefficient was calculated to determine the subscale intercorrelation. Intrapersonal Religious Commitment was highly correlated with Interpersonal Religious Commitment,  $r(129) = .86, p < .001$ .

### Further Validity Studies

*Construct and criterion-related validity.* To further assess the construct and criterion-related validity of the RCI-10, we correlated the full scale and two subscales with (a) self-rated religious commitment (construct validity), (b) frequency of attendance at religious services (criterion-related validity), and (c) self-rated intensity of spirituality (criterion-related validity). The full-scale RCI-10 was significantly correlated with self-rated religious commitment,  $r(129) = .84, p < .01$ ; frequency of religious service attendance,  $r(129) = .75, p < .01$ ; and self-rated spiritual intensity,  $r(129) = .74, p < .01$ . The Intrapersonal subscale was significantly correlated with self-rated religious commitment,  $r(129) = .83, p < .01$ ; frequency of religious service attendance,  $r(129) = .67, p < .01$ ; and self-rated spiritual intensity,  $r(129) = .75, p < .01$ . The Interpersonal subscale was also significantly related to self-rated religious commitment,  $r(129) = .78, p < .01$ ; frequency of religious service attendance,  $r(129) = .79, p < .01$ ; and self-rated spiritual intensity,  $r(129) = .67, p < .01$ .

Two comparisons of dependent correlations were conducted to determine whether the two subscales of the RCI-10 were differentially related to attendance at religious services and spiritual intensity. The Intrapersonal Religious Commitment factor was more highly correlated with spiritual intensity than was the Interpersonal Religious Commitment factor,  $t(127) = 2.56, p < .05$ ; Interpersonal Religious Commitment was more highly correlated with religious service attendance than was Intrapersonal Religious Commitment,  $t(127) = -3.97, p < .01$ , suggesting discriminant validity for the two subscales of the RCI-10.

*Concurrent validity.* To determine the concurrent validity of scores on the RCI-10, we correlated (a) the amount of empathy for the robber and the motivation to seek revenge against and avoid the robber with (b) religious commitment as measured by the RCI-10. Batson's Empathy Adjectives scale was positively correlated with RCI-10 scores,  $r(130) = .40, p < .01$ . The Revenge subscale of the TRIM was negatively correlated with RCI-10 scores,  $r(130) = -.30, p < .01$ . Avoidance of the robber was not significantly related to religious commitment,  $r(130) = -.11, ns$ .

*Coded responses.* Open-ended responses following reading about the scenario describing the crime were coded for content. Of

particular interest were reports of desires for revenge, empathic responses toward the robber, and religious behavior in response to the incident. Desires for revenge included any specific reports of any thoughts, feelings, or actions related to "getting back at" the robber or wanting to hurt the robber. Empathy was coded for responses such as those relating to understanding the robber or the robber's motives, or being able to forgive and forget the incident. Religious behaviors were coded as any responses that mentioned praying, asking God for help, or receiving help from members of a religious community (e.g., a minister). Two coders were trained to determine types of responses (primarily on the basis of identifying particular words or phrases that indicated the emotions or behaviors) and then independently coded responses for these three variables. The coding determined whether revenge, empathy, and religious behavior were present or absent from an individual's spontaneous report. The intercoder reliability was adequate for empathy and religious behaviors,  $\kappa_s = .81$  and  $1.0$ , respectively. The kappa for the revenge category was only marginally satisfactory,  $.57$ , and may indicate coding difficulties. Differences between coders were assessed and final judgments were made through discussion between the two coders and Nathaniel G. Wade.

Three Pearson correlations were conducted to determine whether religious commitment was related to the spontaneously mentioned reactions of revenge, empathy, and religious behaviors. Religious commitment was positively correlated with the number of spontaneously reported religious behaviors,  $r(130) = .30, p < .01$ . For example, 1 participant, high in religious commitment, stated that she would be "angry, but then [I] would pray and call the church." Religious commitment was not significantly related to free responses indicating revenge or empathy.

### Study 3: Test-Retest Reliability of the RCI-10 With Christian College Students

In Study 1, the 10 items from the RCI-17 that compose the RCI-10 were reliable over 3 weeks. It was necessary to test the internal consistency and temporal stability of the RCI-10 in its final form.

#### Method

##### Participants

Undergraduates ( $N = 150$ ) were recruited from two religiously affiliated private Christian universities in the Eastern and Midwestern United States. See Table 1 for demographic information.

##### Procedure

Christian students were recruited from undergraduate psychology classes. Students accessed a Web page that contained the study information. Students completed the informed consent information and signed up for the study online. Students completed the RCI-10 and information about their age, ethnicity, and religious affiliation. They were reminded via e-mail to return to the Web site in 5 months to complete a follow-up RCI-10.

#### Results

The primary interest was to examine the reliability of the RCI-10 in further detail. Internal consistency reliability was mod-

erately high (Cronbach's  $\alpha = .88$ ). The 5-month test–retest reliability was also high,  $r(121) = .84, p < .001$ .

#### Study 4: Confirmatory Factor Analyses (CFAs) of the RCI–10

Although measures of religion are ideally as general as possible, their validity depends on their usefulness within specific communities. Many participants in research and counseling are drawn not from the university but from the community. It is necessary to study the validity and reliability of scores on the RCI–10 in people solicited from the community. Statistically, in the United States, most of those adults are likely to be married, and most are likely to endorse the Christian faith. We thus investigated the use of the RCI–10 in a sample of married Christians.

The Intrapersonal and Interpersonal Religious Commitment subscales were found to be strongly correlated in Studies 1 and 2. It would be parsimonious to consider the RCI–10 as simply a single scale. However, there appears to be modest evidence of some differential predictive capacity from the subscales. We conducted a CFA of one- and two-factor models, and we compared the models statistically to determine whether the two subscales ought to be ignored henceforth. In the present study, we used a sample of married adults primarily from the community. We focused on Christian married people recruited for a study on their attitudes toward explicitly Christian counseling (Ripley, Worthington, & Berry 2001; in Ripley et al., the RCI–10 was used as an independent variable, bifurcated into high vs. moderate-to-low religious commitment. Means and standard deviations for the RCI–10 were not reported. None of the analyses below were reported in Ripley et al.). To replicate the factor structure, we conducted a second CFA of college students drawn from Studies 2 and 3, and we similarly compared the one- and two-factor models.

#### Method

##### Participants

Participants in the sample on whose data the first CFA was done were 190 Christians recruited from two sources. Married church attenders ( $N = 145$ ) were recruited from eight Protestant congregations. Married Christian students ( $N = 45$ ) attended a large, urban Mid-Atlantic university. See Table 1 for demographic information. In the replication, we combined the samples of college students from Studies 2 and 3 (total  $N = 282$ ).

##### Measures

We administered the RCI–10 and a demographic questionnaire that included self-reports of age, gender, ethnicity, and religious affiliation. For the current sample of married people, the RCI–10 was found to be significantly correlated with age,  $r(188) = .29$ .

##### Procedure

Married Christians were solicited primarily in person. Church attenders were solicited through announcements and requests were made in person at area congregations. Married undergraduate students were solicited from introductory psychology classes. Those who volunteered completed a questionnaire packet as part of a larger study on the preferences for religious versus nonreligious counseling (Ripley et al., 2001). Only one spouse of a married couple was allowed to participate in this study to

eliminate potential problems due to nonindependence of responses. The procedures for Studies 2 and 3 were described earlier.

#### Results

Means and standard deviations for the RCI–10 are reported in Appendix A. A CFA that used maximum-likelihood analysis indicated that the two-factor model fit the data well. For a two-factor model with uncorrelated error, the chi-square statistic was significant,  $\chi^2(34) = 106.38, p < .001$ . All three fit indexes suggested a good fit (normed fit index [NFI] = .92; nonnormed fit index [NNFI] = .93; comparative fit index [CFI] = .94). The CFA (with correlated error) indicated that the model with the correlated error fit the data better than did the uncorrelated-error model,  $\chi^2(1) = 33.35, p < .05$ . The chi-square statistic for the correlated error model was significant,  $\chi^2(33) = 73.03, p < .001$ . All three fit indexes suggested an improved fit (NFI = .95, NNFI = .96, and CFI = .97).

We tested a measurement model that reflected a hypothesis that a single factor produced the covariances among the 10 indicators. This model also fit the data,  $\chi^2(35) = 142.18, p < .001$ ; NFI = .89, NNFI = .89, and CFI = .92. The two-factor model fit the data better than did the one-factor model,  $\chi^2(1) = 35.80, p < .05$ . The two factors were highly correlated at .86. Although the two-factor model was statistically superior to the one-factor model, the one-factor model is preferred because of the high factor correlation. A model that tested the hypothesis that no parameters were significantly related did not fit the data,  $\chi^2(45) = 1,331.50$ .

For the combined sample (from Studies 2 and 3) of undergraduate students, we attempted to replicate the findings. Both the one-factor and the two-factor model were tested to determine whether the factor structure determined in Study 1 and confirmed in the present study with married people would replicate. The one-factor model, with uncorrelated error, was a good fit for the data, NFI = .92, NNFI = .91, CFI = .93,  $\chi^2(35) = 224.70, p < .01$ . The two-factor model was also a good fit for the data, NFI = .96, NNFI = .96, CFI = .97,  $\chi^2(34) = 111.90, p < .01$ . These two nested models were compared with the chi-square difference test, which indicated that the two-factor model was a significantly better fit. However, once again, the correlation between the two factors was .89, indicating a large degree of overlap. Although the two-factor model was a statistically improved fit over the one-factor model, the one-factor model is preferred because of the high factor correlation.

#### Study 5: Validity and Reliability of RCI–10 Scores in a Religiously Diverse Sample of American College Students

Thus far, each study has focused primarily on general samples of university students or on religiously committed Christians versus less committed Christians. Although self-identified Christians are a highly salient group for much of the United States (approximately 83% of United States population claims Protestant or Catholic religious affiliation; U.S. Census Bureau, 2001), attention to other religious groups is important to establish the reliability and validity of scores on the RCI–10 across religious groups. Although some preliminary data suggest that commitment to other religious traditions can be adequately measured with the RCI–10 (see Ap-

pendix A), the present results should be understood as only suggestive. An important subsequent step to the present research would be the replication of reliability and validity in other religious traditions (especially others—besides Christianity—of the five major religions, Judaism, Buddhism, Hinduism, Islam, and Christianity).

### Method

#### Participants

Participants were 468 undergraduate students from a large state university in the San Francisco Bay Area. See Table 1 for demographic information.

#### Procedures

A demographic form, the RCI–10, and the single-item scale concerning the number of religious services attended were distributed in classes and returned to the researchers during subsequent class periods. Of 600 packets distributed, 468 (78%) were returned with sufficiently complete data for analyses.

### Results

Descriptive statistics for the total sample and for the religious groups separately are presented in Appendix A. Estimates of reliabilities (Cronbach's alpha coefficients) for the RCI–10 in the overall sample was .95 and ranged from .92 to .98 for the specific religious groups. For the interpersonal factor, the overall sample reliability estimate was .88 and ranged from .68 to .97 for the specific religious groups. For the intrapersonal factor, alphas were .92 for the overall sample, and ranged from .86 to .96 for the religious groups.

The correlation between the RCI–10 and frequency of religious activities in the overall sample was  $r(460) = .57, p < .001$ . To test for potential differential validity for different religions, we also correlated the RCI–10 with frequency of religious activities within each religious group separately. The correlations were as follows: Buddhists,  $r(49) = .33, p < .05$ ; Christians,  $r(276) = .52, p < .001$ ; Hindus,  $r(8) = .56, p = .07$ ; Muslims,  $r(10) = .79, p < .01$ ; and nonreligious,  $r(115) = .22, p < .01$ .

ANOVAs were used to compare the five religious groups' scores on the RCI–10 and subscales. There were statistically significant effects for the RCI–10,  $F(4, 463) = 28.2, p < .001$ ; Interpersonal Religious Commitment,  $F(4, 463) = 27.1, p < .001$ ; and Intrapersonal Religious Commitment,  $F(4, 463) = 25.0, p < .001$ . Tukey's HSD was used for post hoc comparisons. For the RCI–10 and both factor subscales, the nonreligious group scored significantly lower than all religious groups (all  $p$  values  $< .05$ ). Additionally, both the Christian and Muslim groups scored significantly higher than the Buddhist group on the RCI–10 and both factor subscales (all  $p$  values  $< .05$ ). The Christian and Muslim groups did not differ significantly from each other.

Because most of the Buddhists (47 of 52) were Asian American, we were concerned that the lower RCI scores for the Buddhists might reflect ethnic rather than religious differences. To test this, we used the Asian American subsample ( $n = 216$ ). We conducted ANOVAs to compare Buddhist ( $n = 47$ ), Christian ( $n = 119$ ), and nonreligious ( $n = 50$ ) groups on the RCI–10. (Frequencies of other

religious groups within the Asian American sample were too small for statistical comparisons.) The three religious groups differed,  $F(2, 213) = 35.1, p < .001$ . Tukey's HSD comparisons revealed that the Buddhist ( $M = 21.3, SD = 9.0$ ), Christian ( $M = 28.7, SD = 10.1$ ), and nonreligious ( $M = 16.1, SD = 7.3$ ) groups of Asian Americans all differed significantly from each other (all  $p$  values  $< .01$ ).

#### Study 6: Validity Studies of the RCI–10 With Counselors and Clients at Explicitly Christian and at Secular Agencies

##### *Use of RCI–10 in Clinical Settings*

On the basis of the foregoing data, we recommend the RCI–10 for use in research with religious (and nonreligious) people. Before the RCI–10 can confidently be recommended for use in counseling, though, evidence of reliability and validity of its scores must be established with actual counselors and clients. Clients of high religious commitment have been hypothesized and found to perceive the counseling process and counselors differently than do nonreligious clients (for a review see Worthington et al., 1996). Highly religious clients typically find religious issues more salient than do clients of lower religious commitment. In addition, clients of high religious commitment tend to sacralize many secular topics (Pargament, 1997). It thus behooves therapists to be sensitive to clients' religious commitments. Richards and Bergin (1997) suggested that all therapists, regardless of their desire to use religious or spiritual interventions in their own counseling, should for ethical reasons attempt to increase their sensitivity to religious clients and issues (see also Miller, 1999; Richards & Bergin, 2000; Worthington & Sandage, 2002).

The validation of scores on the RCI–10 supporting its use with psychotherapy clients necessarily involves two initial considerations. First, the reliability and validity established in the previous studies should be explored and replicated in a sample of clients and counselors. Second, the factor structure of the RCI–10 needs to be confirmed by using a sample of actual clients. (As an aside, we note that the factor structure should be confirmed with counselors as well as clients.)

Ultimately, we should validate the RCI–10 on samples drawn from each of the major religions in the world and also on samples of nonreligious and even antireligious people. Furthermore, we should validate the RCI–10 with clients attending all forms of secular counseling and explicitly religious counseling from major religions. For the present article, though, we restricted our ambitions to studying religious commitment within Christian counseling. Explicitly Christian counseling has become widely practiced throughout the United States. For example, there are over 20,000 members of the American Association of Christian Counselors who are professional counselors. Most of those members see clients in explicitly Christian counseling agencies or practices. Some explicitly Christian counselors have general practices in which clientele involve religiously committed Christians and clients who do not profess religious beliefs or do not value their beliefs highly. In a feature article in the *Family Therapy Networker*, Wylie (2000) described the widespread practice of explicitly Christian counseling, saying, "At the cusp of the millennium, the Christian counseling movement seems to be entering boom

times" (p. 31). In the present study, we surveyed both clients and counselors at one secular university counseling agency and at explicitly Christian counseling agencies nationwide. We examined the relationship of the RCI-10 to other measures of religiosity at both types of agencies for clients and counselors.

### Method

#### Participants

Seven agencies of different types from geographically diverse regions of the United States participated, involving 217 clients and 52 counselors. The sample should be considered a convenience sample, but we offered the opportunity to participate to people in diverse regions of the United States and in diverse types of counseling agencies.

Participating Christian counseling agencies involved a church-based but public counseling center in the East ( $n = 17$  clients,  $n = 5$  counselors), an explicitly Christian community-based practice in the East ( $n = 24$  clients,  $n = 5$  counselors), a counseling center at a Christian seminary in the South ( $n = 36$  clients,  $n = 16$  counselors), an explicitly Christian university-affiliated but community-based counseling agency in the South ( $n = 14$  clients,  $n = 4$  counselors), an explicitly Christian private practice in the Midwest ( $n = 66$  clients,  $n = 3$  counselors), and an explicitly Christian predominantly marriage and family counseling practice in the Midwest ( $n = 13$  clients,  $n = 2$  counselors). One secular agency participated: a secular university counseling center in the Mid-Atlantic region ( $n = 47$  clients,  $n = 17$  counselors). Explicitly Christian counseling agencies were oversampled because we were interested in providing a large sample of Christian clients of differing levels of religious commitment. Even though some agencies advertise as explicitly Christian in orientation, people who are not Christian are typically part of the clientele. See Table 1 for demographic information.

#### Measures

*Client's ratings.* The client's ratings included the RCI-10 and other measures of religiosity such as single-item ratings of how often the person attended religious services, how committed one felt to one's religion, how intense one rated one's spiritual life, and whether one belonged to a religious group. Those measures have been described previously (see Study 2). Other measures were part of a larger study that is currently in progress. The present article is concerned only with the psychometric adequacy of the RCI-10, so only those data are reported here.

*Counselor's ratings.* The counselor's ratings included the RCI-10 and other questions about Christian counseling that are part of the larger study. Counselors also provided demographic information.

#### Procedure

Agencies were contacted by soliciting participants who attended a symposium on "What Is Christian Counseling?" offered by Everett L. Worthington, Jr. The symposium was presented at four professional meetings. At least one agency contact agreed to participate from each meeting.

Directors of agencies returned an application for participation. The project director (Nathaniel G. Wade) contacted each agency to arrange participation. Participating counselors completed a one-page survey that included the RCI-10 and other items.

At each agency, 1 week was designated for data collection. During that week, all clients of participating counselors were asked to complete other items concerning their religiosity and other data that are part of the larger study. Clients who participated (from 25% to 90% of those asked, on the basis of the agencies who supplied that information) completed a two-page questionnaire at the end of the session. Clients did not identify themselves by name. They sealed their questionnaires in envelopes and placed the

envelope in a collection box as they exited. Clients were urged to turn in envelopes even if they did not complete questionnaires so that identification of actual participants was impossible.

### Results

#### Internal Reliabilities in Client and Counselor Samples

Means and standard deviations for clients and counselors on the RCI-10 and its subscales are given in Table 4. Reliabilities were estimated for the RCI-10 on client and counselor samples. The client sample had a Cronbach's alpha for the RCI-10 of .95, with corrected item-total correlations ranging from .69 to .87. For counselors, Cronbach's alpha on the RCI-10 was .98, with corrected item-total correlations ranging from .82 to .94.

#### Does the Factor Structure of the RCI-10 Replicate in a Sample of Clients?

For clients ( $n = 219$ ), a CFA using maximum-likelihood solution analysis indicated that the two-factor model with correlated error fit the data well. The chi-square statistic was significant,  $\chi^2(34, N = 219) = 175.2, p < .001$ . More relevant, the NFI indicated a good fit (.92), as did the NNFI (.91) and the CFI (.93). Factors 1 and 2 were significantly correlated,  $r(216) = .75, p < .01$ . We also tested a measurement model that hypothesized that a single factor produced the covariances among the 10 indicators for the second subsample. This model fit the data less well than the two-factor model,  $\chi^2(35, N = 219) = 290.3, p < .001$ ; NFI = .88, NNFI = .86, and CFI = .89. The two-factor model fit the data better than did a single-factor model,  $\chi^2(1) = 87.9, p < .05$ . Nonetheless, because the factors were highly correlated, we accept the one-factor model as preferable. CFA was not conducted with the counselor sample because of the limited sample size ( $n = 52$ ).

#### Validity in a Sample of Clients

Means, standard deviations, and correlations of the RCI-10 (full-scale score) with church attendance, the single-item measure of religious commitment, and the measure of spiritual intensity are reported in Table 4. To test the construct validity of the subscale scores, we correlated the RCI-10 subscales with the two independent ratings that we expected to be differentially related to Intrapersonal and Interpersonal Religious Commitment. The correlation of church attendance and the Intrapersonal Religious Commitment subscale score was  $r(209) = .70, p < .001$ ; the correlation of church attendance and the Interpersonal Religious Commitment subscale score was  $r(209) = .80, p < .001$ . As would be expected, the correlations differed,  $t(210) = 10.42, p < .01$ .

The correlation of spiritual intensity and the Intrapersonal Religious Commitment subscale score was  $r(210) = .68, p < .001$ ; the correlation of spiritual intensity and the Interpersonal Religious Commitment subscale score was  $r(209) = .59, p < .001$ . As would be expected, the correlations differed,  $t(210) = -6.24, p < .01$ .

### General Discussion

In the present article, we have presented evidence of the reliability and validity of the scores on the RCI-10. The evidence we have considered is based on data from (a) secular university

Table 4

*Means and Standard Deviations of Religious Commitment for Counselors and Clients, With Correlations (Study 6)*

	Full scale RCI-10		Intrapersonal RCI		Interpersonal RCI		RCI-10 correlation with		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	Attendance	Single-item religious commitment	Intensity of spiritual life
Counselors									
Full sample ( <i>N</i> = 51)	38.7	12.4	24.1	7.4	14.5	5.2			
Agency									
Christian ( <i>n</i> = 33)	45.9	4.4	28.5	1.8	17.4	3.0			
Secular ( <i>n</i> = 18)	25.5	11.3	16.2	7.2	9.3	4.4			
Clients									
Full sample ( <i>N</i> = 213)	33.7	12.5	21.2	7.6	12.5	5.4	.76	.82	.66
Gender									
Female ( <i>n</i> = 151)	33.3	12.9	21.2	7.8	12.2	5.5			
Male ( <i>n</i> = 59)	34.2	11.4	21.2	7.0	13.1	5.0			
Ethnicity									
European American ( <i>n</i> = 170)	33.6	12.7	21.2	7.8	12.5	5.4			
African American ( <i>n</i> = 24)	37.3	9.8	23.4	5.7	14.0	4.7			
Asian American ( <i>n</i> = 6)	22.7	10.9	14.2	5.6	8.5	6.0			
Denomination									
Protestant ( <i>n</i> = 140)	37.9	10.3	23.6	6.3	14.3	4.6	.60	.72	.70
None ( <i>n</i> = 36)	22.3	10.6	14.9	7.0	7.8	4.4	.77	.80	.58
Roman Catholic ( <i>n</i> = 19)	30.1	13.9	19.0	8.6	11.1	5.5	.83	.86	.76
Other ( <i>n</i> = 11)	27.6	12.4	17.5	7.2	10.2	5.8	.94	.92	.61

*Note.* RCI-10 = Religious Commitment Inventory—10. For all correlations,  $p < .001$ .

students; (b) university students from explicitly Christian colleges; (c) adults from the community; (d) single and married people; (e) Christians, Buddhists, Muslims, Hindus, and people who respond *none* to their religious preference; and (f) therapists and clients at secular and explicitly Christian counseling agencies. Many criteria of validity have been used and tell a relatively consistent story suggesting various types of validity of scores on the RCI-10 and its two subscales. We reported validity evidence for the full-scale RCI-10 scores and both subscale scores. There is limited evidence that scores on each of the subscales are valid and measure somewhat different constructs. However, the scales are very highly intercorrelated, so we cannot (at this time) advocate using subscale scores in the clinic and in research.

Means and standard deviations for groups totaling almost 2,000 people are summarized in Appendix A. For secular groups, means for the full-scale RCI are between 21 and 26 (*SDs* = 10–12). According to theorizing and reviews of research (Worthington, 1988; Worthington et al., 1996), people scoring greater than one standard deviation higher than the mean should be considered highly religious. There is evidence that they interpret life events more in terms of their religious worldview than do less religious people or nonreligious people. Therefore, religion is expected to play a part in counseling and certainly in the perception of clients. Choosing the most accurate mean and standard deviation is thus important. We suggest, by using the most extreme scores within our ranges, that the normative mean for a general sample of U.S. adults is 26 with a standard deviation of 12. Thus, according to theory (Worthington, 1988), a full-scale RCI-10 score of 38 or higher would justify considering a person to be highly religious. Our samples of professing Christians from churches ( $M = 39$ ),

clients in explicitly Christian agencies ( $M = 37$ ), students at Christian private universities ( $M = 38.5$ ), and therapists at explicitly Christian agencies ( $M = 46$ ) support Worthington's (1988) theorizing and other research (for a summary, see Worthington et al., 1996).

Because religious commitment is important in counseling and referring highly religious clients, having a measure with reliable and valid scores is important. In today's climate of brief therapy, having a brief measure takes on added importance. Whereas in a pinch, a single item or single question about religion might have to suffice to assess a client (see Gorsuch, 1984), a single item can be disastrously inaccurate for an individual client because of its inherent lack of reliability. Some lack of reliability can be tolerated in research that considers group means, but for clinical use with individuals, a longer scale than a single item is needed. The RCI-10 is thus brief enough to be valuable for research and perhaps for assessing religiosity of clients—though definitive endorsement for clinical use must await testing that demonstrates that its use with actual clients can lead to better outcomes.

Interest in the study of religion has increased with recent emphasis of working with clients from a multicultural perspective (Sue, Zane, & Young, 1994). Richards and Bergin (1997) adapted this multicultural framework for work with religious clients and suggested that counselors develop an ecumenical therapeutic stance, which goes beyond contemporary multicultural approaches by emphasizing specific attitudes and skills for intervening in the spiritual dimensions of clients' lives. Richards and Bergin define an *ecumenical therapeutic stance* as an "attitude and approach to therapy that is suitable for clients of diverse religious affiliations and backgrounds" (p. 118) and suggest 11 characteristics of effective

tive ecumenical psychotherapists. Central to their ecumenical framework is the endorsement of a multidimensional, wholistic assessment strategy, including assessment of a client's physical, emotional, social, cognitive, behavioral, and spiritual dimensions at global (Level 1 assessment) and, if indicated, specific (Level 2 assessment) levels (Richards & Bergin, 1997). We propose the RCI-10 as a brief global assessment survey, which allows the therapist to determine the extent to which a client's religious commitment might be considered when forming ecumenical therapeutic intervention strategies. We recommend this on the basis of Worthington's (1988) theorizing (and empirical evidence from a variety of sources; see Worthington et al., 1996, for a review) that identifies religious commitment as a key variable in how religious people see the world. We recognize that not everyone will accept religious commitment as such an important variable in assessing religious clients. In such cases, we recommend the RCI-10 as assessing one of many Level 2 religious or spiritual variables.

On the basis of the foregoing six studies, we conclude that sufficient evidence exists to make a limited endorsement of the use of the RCI-10. It seems useful for research with college students. Some modest evidence exists for use in community samples. The RCI-10 is particularly useful for Christians. Modest evidence supports its use with some other religious groups, but evidence for use with Jews was not available in the present samples and evidence for use with Hindus and Muslims was scant. We recommend it for use in assessment for counseling as one of several instruments needed for general religious assessment. As with all instruments, additional data are needed to support its widespread application in counseling, but we endorse it for limited use.

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## Appendix

### Normative Data for the Religious Commitment Inventory—10 (RCI-10) for State University Students, Community Christians, Students of Various Religious Identities, Clients, and Counselors

Sample	Study	<i>n</i>	Total RCI-10	Intrapersonal Commitment (Factor 1)	Interpersonal Commitment (Factor 2)
University students	Archival data <sup>a</sup>	710	23.1 (10.2)	14.4 (6.7)	8.8 (4.3)
University students	1	155	23.6 (10.8)	14.7 (7.1)	9.0 (4.5)
University students	2	132	25.7 (11.9)	15.9 (7.3)	9.8 (5.1)
Christian students at explicitly Christian colleges	3	150	38.5 (7.9)	24.6 (4.9)	13.4 (3.7)
Married, Christian adults	4	190	39.0 (9.3)	24.0 (5.9)	15.2 (3.7)
University students	5	468	22.8 (10.5)	14.1 (6.6)	8.5 (4.4)
Subsample, Buddhist students	5	52	21.1 (8.8)	13.2 (5.3)	7.9 (3.8)
Subsample, Christian students	5	278	25.8 (10.3)	16.0 (6.3)	9.8 (4.4)
Subsample, Hindu students	5	10	24.5 (9.9)	15.1 (6.9)	9.4 (3.3)
Subsample, Muslim students	5	12	29.7 (15.1)	18.4 (9.2)	11.3 (6.0)
Subsample, Nonreligious students	5	116	14.9 (7.1)	9.5 (5.0)	5.3 (2.5)
Clients in Christian agencies	6	167	37.0 (10.4)	23.1 (6.3)	13.9 (4.7)
Clients in a secular counseling center	6	46	21.4 (11.7)	14.1 (7.7)	7.3 (4.5)
Therapists in Christian agencies	6	33	45.9 (4.4)	28.5 (1.8)	17.4 (3.0)
Therapists in a secular counseling center	6	18	25.5 (11.3)	16.2 (7.2)	9.3 (4.4)

*Note.* Values in the three rightmost columns are means (and standard deviations).

<sup>a</sup> Collected over a 7-year period.

Received January 16, 2002  
 Revision received May 14, 2002  
 Accepted May 23, 2002 ■