

The relations among religiosity, negative cognitions, and depressive symptoms in adolescents in  
the context of a prevention trial

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## Abstract

The purpose of the present study was to examine the efficacy of a cognitive-behavioral (CB) intervention for preventing depressive symptoms in adolescents in comparison to a nonspecific, attention control group and a no intervention/assessment only control. Participants were 217 students attending a local public school [Mean age = 14.43 ( $SD = .70$ )]; 64.1% of the sample was female. Religiosity (intrinsic and extrinsic) was assessed at baseline to examine whether such beliefs moderated the relation between the interventions and changes in depressive symptoms measured with the CES-D and CDI. Results indicated that, among adolescents low in intrinsic religiosity, those in the CB condition had significantly lower post-intervention depression scores, controlling for baseline levels, compared to those who were in either the nonspecific attention or no intervention control groups. In addition, whereas no intervention effect was found for adolescents with low levels of interpersonal self-worth (SW) and high extrinsic religiosity, those with low SW and *low* extrinsic religiosity had significantly lower post-intervention depression if they had been in the CB group compared to the other two conditions. Finally, there was no evidence that the nonspecific control condition affected participants' depression scores, thus indicating that the CB program may provide benefits over and above exposure to a supportive environment. These results highlight that different religious beliefs are related to depression and intervention in important and distinct ways.

The rates of depression increase significantly during adolescence going from approximately 1 to 2% in pre-pubertal children to about 3 to 8% in adolescents (Costello et al., 1996; Kovacs, 1996). Depression in youth is associated with other problems such as substance abuse, high risk sexual behavior, academic problems, and increased risk of suicide (Birmaher et al., 1996; Brent et al., 1988). Early onset depression has been linked with high recurrence rates during later adolescence and adulthood (Emslie et al., 1997; Harrington, Fudge, Rutter, Pickles, & Hill, 1990). Thus, depression in children and adolescents is a significant public health concern and its prevention is an important goal.

According to the Institute of Medicine (Mrazek & Haggerty, 1994), prevention programs can be classified into three distinct categories based on the population to whom the interventions are directed. Universal preventive interventions are administered to all members of a specified population. Selective prevention programs are given to members of a subgroup of a population whose risk is deemed to be above average. Finally, indicated preventive interventions are given to individuals who manifest sub-clinical signs or symptoms of the disorder.

In a meta-analysis of 30 depression prevention programs, Horowitz and Garber (2006) outlined the advantages and limitations of each type of preventive intervention and compared the average effect sizes of all three approaches. An important strength of universal prevention programs, particularly those given in schools, is that they are provided to all students, thereby reducing stigma by not singling out any particular children as being in need of treatment. In contrast, targeted programs (i.e., selective, indicated) are more likely to reach individuals who are most in need and probably will particularly benefit from the intervention.

Results of the meta-analysis (Horowitz & Garber, 2006) showed that selective and indicated programs had larger effect sizes than universal programs, although all three types of

interventions have had small to moderate effects. One reason for these modest effects may be that there are individual differences in responses to the programs. Therefore, an important goal with regard to preventing depression is to identify who will respond best to which program(s). The present study examined individual differences with regard to religious orientation (Koenig & Larson, 2001) as a possible moderator of the effects of the preventive intervention programs on depressive symptoms in adolescents.

Some studies have found a positive association between religiosity and depression (Gartner, Larson, & Allen, 1991; Koenig & Larson, 2001), whereas others have not (Hackney & Sanders, 2003). One reason for these mixed findings may be that religiosity is multidimensional and studies have varied with regard to definitions and measurement. Religiosity has been categorized as either intrinsic or extrinsic (Allport & Ross, 1967). People with an intrinsic orientation internalize their religious beliefs and try to live their lives in accordance with these beliefs. For these individuals, religion is central to who they are. In contrast, persons with an extrinsic orientation use religion for external gain such as personal comfort, protection, and social status, and as a way to form social connections (Maltby, 1999; Wenger, 2004).

Traditionally, an intrinsic religious orientation has been found to be associated with better mental health (Chatters, 2000). For example, intrinsic religiosity (but not service attendance or private religious activities) was correlated with shorter time to remission of depression in a sample of older patients (Koenig, George, Bercedis, 1998). Cadwaller (1991), however, argued that each form of religiosity can be used both adaptively and maladaptively. He suggested that healthy religion is self-expanding and soul-nourishing, whereas unhealthy religion is self-constricting and soul-impoverishing. The former affirms and celebrates life; the latter restricts life, leading to gloom and hopelessness. Healthy religious attitudes foster self-growth, self-

empowerment, and self-actualization. Unhealthy religious attitudes promote unredemptive self-castigation, self-derogation, despair, and depression (Cadwallader, 1991).

Hackney and Sanders (2003) suggested that discrepant findings regarding the relation of religiosity to mental health are partially the result of the way researchers have conceptualized and assessed the constructs. Researchers have sought to standardize definitions and measures of religiosity. Gorsuch (1990) characterized intrinsic orientation as a “motivation for experiencing and living one’s religious faith for the sake of the faith itself.” Wenger (2004) suggested that intrinsically oriented individuals’ underlying organization of their religious beliefs might be closely associated with their cognitive representations of the self, because religion is so much a part of who they are. Religiousness, however, is not invariably related to favorable outcomes. Positive relations also have been recorded between religiousness and guilt (Fabricatore, Handal, Rubio, & Gilner, 2004).

Fabricatore and colleagues (2004) suggested and defined three forms of religious coping that might be related to mental health outcomes: collaborative, deferring, and self-directing. Collaborative religious coping involves working with God and taking an active role in making decisions. Such coping will increase intrinsic individuals’ competence levels because they are engaged in the decision making process. In contrast, the deferring approach is more passive; the person actually gives over all the responsibility for problem solving to God. Persons with this form of intrinsic beliefs would decrease their psychosocial competence because they would see themselves as powerless to avoid negative outcomes or to produce positive outcomes unless they have the help of God. Third, self-direction coping refers to the idea that God has provided or will provide mankind with all of the necessary tools to solve problems when conflict arises. It is then

up to the person to utilize their God given gifts to solve their problems. These different forms of intrinsic religious coping may produce very different relations between stressors and depression.

In contrast to intrinsic religiosity, an extrinsic religious orientation is less likely to have the protective potential of intrinsic beliefs. Individuals who use religion instrumentally for personal gain may not find their faith to be a source of strength during times of challenge. Moreover, in the absence of obtaining the desired external rewards, their religiosity itself could become a source of stress. Indeed, individuals who seek to enhance an already fragile self-esteem through their religious practices might be particularly vulnerable to depression when their religious involvement fails to provide them with the increased social status they seek.

The purpose of the present study was to examine the relations among intrinsic and extrinsic religiosity, negative cognitions, and depression in adolescents randomly assigned to one of three intervention conditions. The following questions were addressed: (a) What is the relation between intrinsic and extrinsic religiosity and depressive symptoms in adolescents? (b) What is the relation between the different types of religious beliefs and cognitions about the self, future, and causes event, which are considered vulnerabilities for depression (Abramson, Metalsky, & Alloy; 1989; Beck, 1967). (c) Do intrinsic and/or extrinsic religiosity moderate the effect of the preventive interventions on depression? and (d) Do the effects of religiosity on depression vary by intervention condition for those with or without negative cognitions, particularly about the self. Depression prevention programs that focus on altering individuals cognitive tendencies have shown some success (e.g., Clarke et al., 2001; Gillham, Reivich, Jaycox, & Seligman, 1995). The extent to which individual difference characteristics such as religiosity and negative cognitive styles either enhance or diminish the effects of the cognitive-

behavioral program for preventing depression has not yet been explored, and therefore is a focus of the current study.

## Method

### *Participants*

Students in Wellness classes in a middle Tennessee high school were recruited to participate in the study. Parental consent and student assent were obtained for 217 out of a possible 400 students (54.25%). Most were freshmen (80%); the average age was 14.43 ( $SD = .70$ ); 64.1% of the sample was female. The sample was 73.3% Caucasian, 16.1% African-American, 3.7% Latino, 0.5% Asian/ Pacific Islander, 0.5% Native American, 5.5% Mixed Heritage, and 0.9% Other. The first cohort was recruited in February, 2006 and completed the post-test in May, 2006. The second cohort was recruited in August, 2006 and completed the post-test in December, 2006. The schools served communities characterized as predominantly working (e.g., sales clerks, factory workers) to middle class (e.g., farmers, mechanics).

### *Measures*

Depressive symptoms were assessed with the Center for Epidemiological Studies - Depression Scale (CES-D) (Radloff, 1977), which is a self-report measure of the frequency of 20 depressive symptoms over the past week using a 5 point Likert scale. The CES-D is short and easy to read, has been successfully administered in several large adolescent school samples (Lewinsohn et al., 1991; Schoenbach et al., 1982), and has good psychometrics with youth (Roberts et al., 1990). The Children's Depression Inventory (CDI; Kovacs, 1981) is the most widely used self-report measure of depressive symptoms in children (Kazdin, 1981). The CDI is a 27-item questionnaire that measures cognitive, affective, and behavioral symptoms of depression. Each item lists three statements, scored 0 through 2, in order of increasing symptom severity.

Children rated each item for how much they experienced the symptom during the past two weeks. The CDI has been found to have adequate internal consistency, test-retest reliability, and convergent validity with other self-report measures (e.g., Saylor, Finch, Spirito, & Bennett, 1984; Smucker, Craighead, Craighead, & Green, 1986). The CDI also has been found to differentiate between normal and clinic referred children (Carey, Faulstich, Gresham, Ruggiero, & Enyart, 1987; Garber, 1984), and to correlate moderately with parent-report of depression (Garber, 1984).

Religious beliefs were measured with the Age Universal Intrinsic-Extrinsic Scale, developed originally by Allport and Ross (1967) and modified for children and adolescents by Gorsuch and Venable (1983) (see Appendix A). Maltby (2002) changed the response categories from a five point Likert scale to a 3-point scale. Participants respond to each of the 20 items as “1” Yes, “2” Not Sure, or “3” No. Gorsuch and Venable (1983) showed that the measure was both as reliable and valid and could be used with children as young as fifth grade.

The Adolescent Cognitive Style Questionnaire (ACSQ) measures a child’s vulnerability to depression based on their cognitive vulnerability (Hankin & Abramson, 2002). The ACSQ assesses cognitive vulnerability, including negative inferences about causes, consequences, and the self, hypothesized to be linked with depression (Abramson et al., 1989). Based on the adult cognitive style questionnaire (e.g., Metalsky & Joiner, 1992), the ACSQ consists of 12 hypothetical negative event scenarios (6 interpersonal and 6 achievement) relevant to adolescents. Participants are presented with a hypothetical negative event and are asked to write down one cause for the event. They then rate the degree to which the cause of the hypothetical negative event is (a) internal, (b) stable, and (c) global (negative inferences for causal attributions), the likelihood that further negative consequences will result from the negative event (negative inferences for consequences), and the degree to which the occurrence of the event signifies that the person’s self is flawed (e.g., “something is wrong with you” because the negative event happened; negative inference for self). Scores (mean-item) on the ACSQ range from 1 to 7.



### *Procedure*

Letters describing the study were sent home to parents of all students in Wellness classes. All students who received parental consent were invited to participate. Students were randomly assigned by class to participate in the Cognitive Behavior Program (CB) (n= 56), the Nonspecific Attention Control Program (NSP) (n=74), or the assessment only control condition (n=87). Participants and group leaders were aware of group assignments, whereas those conducting the assessments did not know to which condition students had been assigned. Participants completed questionnaires the week prior to beginning the intervention (baseline). Both intervention programs involved ten 90-minute sessions delivered once a week during students' regular Wellness class period. There were 8 groups for the cognitive behavioral program and 7 groups for the non-specific attention control program. Groups were same sex and had between 4 and 16 students, with a median size of 9 for the CB groups and 10 for the NSP program. Participants in the no intervention control group attended their regularly scheduled Wellness classes where they were taught their normal curriculum in a classroom setting similar to that used in the intervention groups. Post-intervention assessments were completed during school by participants in all three conditions a week after the last group session (post-intervention).

### *Interventions*

The cognitive-behavioral prevention program (CB) targets social information processing based on Dodge's (1993) model. The cognitive aspect of this program teaches the relations among thoughts, feelings, and behaviors. The CB program also includes a social part, which includes both assertiveness and social competence training (Poessel et al., 2005). In contrast to the cognitive-behavior prevention program there was an education program that involved attention control. Though this particular intervention condition did not involve actual cognitive-behavior therapy the

focus was on the actual attention leaders and co-leaders gave the participants. The attention control program was a good intervention condition that lied between the training group and the control group. The leaders and co-leaders main responsibility in this program was to concentrate on giving each of the individuals equal and control attention.

#### *Training and Supervision of Group Leaders*

Group leaders had prior therapy training and were Masters level clinical psychology graduate students or individuals with a Ph.D. or Ed.D. in psychology or a related field. Co-leaders were clinical graduate students or undergraduate honors students. To ensure treatment integrity (a) detailed treatment manuals were used for both CB and AC conditions, (b) group leaders and co-leaders participated in training workshops before beginning the study, and (c) throughout the intervention, weekly supervision meetings were held with clinical experts. During supervision, each session was carefully reviewed and plans for the next session were outlined based on the manuals. Sessions were video-taped and reviewed by the overall supervisor (PP).

#### *Demographics and Attrition*

The three conditions did not vary significantly in age, sex, or race/ethnicity (see Table 1) or baseline depression and sociotropy and achievement orientation scores. Of the 217 participants assessed at pre-intervention, 193 (88.94%) completed the post-intervention evaluation.

#### *Data Analysis Plan*

For analyses predicting post-intervention depressive symptoms based on intervention group, ANCOVA was used with pre-intervention depressive symptom scores as the covariate. When predicting depressive symptoms using a continuous variable, linear regression was used with pre-intervention symptoms in the first step. Interactions between continuous and categorical variables were analyzed using linear regression following the suggestions of Aiken and West (1991). In the

case of intervention group, for example, dummy variables were created to contrast each of the active intervention conditions with the control condition. Interaction terms were created using the product of each of the dummy coded intervention condition variables with a centered version of the other independent variable in question. Both interaction terms then were entered in the final step of the regression.

## Results

### *Means, Standard Deviations, and Correlations*

Table 2 presents the means, standard deviations, and correlations among all study variables. The two measures of depressive symptoms were highly correlated at both Time 1 ( $r = .84, p < .001$ ) and Time 2 ( $r = .83, p < .001$ ), and with themselves from Time 1 to Time 2, CES-D ( $r = .60, p < .001$ ) and CDI ( $r = .73, p < .001$ ). The two subscales of the Religious Beliefs measure also were significantly correlated ( $r = .44, p < .001$ ). Extrinsic religious beliefs were not significantly correlated with either depression measure at either Time 1 or 2. Intrinsic religious beliefs showed a small but significant negative correlation with depressive symptoms (CDI) at baseline ( $r = -.20, p < .05$ ) and post-intervention (CDI,  $r = -.21, p < .05$ ; CES-D,  $r = -.17, p < .05$ ) indicating that greater intrinsic religious beliefs were correlated with lower depression scores. Finally, the cognitive measures correlated significantly with each other and with depressive symptoms, but not with religious beliefs.

### *Does Intrinsic or Extrinsic Religiosity Moderate the Effects of the Intervention on Depressive Symptoms?*

Table 3 shows the regression analysis examining intervention condition, intrinsic religious beliefs, extrinsic religious beliefs, and their interactions predicting depressive symptoms (CDI) at post-intervention, controlling for baseline depression, gender, age, and ethnicity. The interaction between condition and intrinsic religiosity was significant. Figure 1 shows that for the no intervention control group, lower intrinsic beliefs predicted higher levels of depressive symptoms. At low levels of intrinsic beliefs, however, those in the CB intervention group had lower levels of depressive symptoms compared to the other two groups. No significant main effect or interaction was found for extrinsic religiosity.

*Do the effects of religiosity on depression vary by intervention condition for those with or without negative cognitions?*

Table 4 presents the regression analysis examining intervention condition, extrinsic religiosity, and cognitions (Interpersonal and Achievement Self-worth). The significant condition by cognitions interaction was further moderated by extrinsic religiosity. Figure 2 shows the levels of depressive symptoms by condition as a function of levels of interpersonal self-worth and extrinsic religiosity. Two findings are particularly noteworthy. First, at low levels of interpersonal self-worth and high extrinsic religiosity (solid black line), the interventions did not seem to affect the level of depression. In contrast, those with low interpersonal self-worth and *low* extrinsic religiosity (triangle dashed line) had significantly lower levels of depressive symptoms if they were in the CB group compared to the other two conditions. Results regarding achievement self-worth basically paralleled those for interpersonal self-worth.

## **Discussion**

The purpose of the present study was to compare the efficacy of a cognitive-behavioral depression prevention program developed and tested in Germany with youth in the United States, to a nonspecific attention control group and a no intervention/assessment only control group, to examine the relations among religious beliefs, cognitions, and depression, and examine whether religiosity moderated the effect of the interventions on depressive symptoms. The significant intervention effects found in the present study serve as a replication of the German study that developed this program (Poessel et al., 2005). Thus, this cognitive-behavioral program can be feasibly and effectively implemented in high schools in the United States. The study by Poessel et al., however, did not assess the religious orientations included here. Therefore, it is not possible to precisely contrast the results of the two studies.

With regard to our first two questions, intrinsic religiosity had a small but significant, negative correlation with depression. That is, higher levels of intrinsic religious beliefs were correlated with lower levels of depressive symptoms. This simple bivariate correlation, however, does not indicate the direction of this relation. In contrast, extrinsic religiosity was not correlated with depressive symptoms. Second, neither intrinsic nor extrinsic religious beliefs correlated with cognitions about the self. Thus, religious beliefs were not related to adolescents' inferences about the causes of events, future consequences, or self-worth.

Several interesting findings emerged regarding our primary questions concerning the moderating role of religiosity on depression in the different intervention conditions. The significant main effect for intervention was moderated by adolescents' religious orientation. Among adolescents low in intrinsic religiosity, those in the cognitive-behavioral intervention group were significantly less depressed at post-test compared to those who were in either the nonspecific attention or no intervention control groups. No significant main effect or interaction

was found for extrinsic religiosity. Thus, although low intrinsic religiosity tends to be associated with higher levels of depression, this was less so for adolescents who had the CB intervention. Whereas individuals with strong intrinsic religious beliefs can turn inward to their faith during times of stress, those low in such beliefs do not have that available as a coping tool. It is likely that the CB program provided these individuals with other, nonreligious coping strategies, whereas those teens in the other two conditions were not.

Finally, we did find that the effects of religiosity on depression varied by intervention condition for those with or without negative cognitions about the self. Students in the CB condition had lower levels of post-intervention depressive symptoms, and this was particularly true for those with higher levels of self-worth. This significant interaction, however, was further moderated by extrinsic religiosity. Whereas there was no intervention effect for those with low levels of interpersonal self-worth and *high* extrinsic religiosity, those with low interpersonal self-worth and *low* extrinsic religiosity had significantly lower post-intervention depression if they had been in the CB group compared to the other two conditions. The absence of an effect for those with both low self-worth and high extrinsic religiosity is particularly striking. These individuals likely see themselves as socially incompetent, and they attempt to use their religion to bolster their self-worth. In contrast, the adolescents with low self-worth, but low extrinsic religiosity seemed to benefit from the CB program significantly more than the nonspecific attention or no intervention control groups. It is likely that the CB intervention talk these adolescents about alternative ways to enhance their self-esteem that did not involve their religious beliefs. Why the CB program did not have the same impact on the high extrinsic teens needs to be studied further.

#### *Limitations and Future Directions*

Limitations of this study provide directions for future research. First, the reasons for attrition should be explored. It is not clear if participants were missing at random or if there was a systematic difference between those who did and did not continue to participate. Third, although students were randomly assigned by class, the cell sizes were not equal across intervention conditions. Moreover, analyses should be conducted taking into consideration the nesting of the data. That is, students were nested within groups, which were nested within classes. Therefore, the assumption of independence among participants was violated in the analyses conducted here. Fourth, although interesting and significant interactions were found for the self-worth subscales of the cognitive measure, no significant effects were found for the other subscales. Given the number of statistical tests conducted, we need to be concerned about possible Type I error.

In addition, although finding moderators of the effects of the interventions on the outcome (i.e., depressive symptoms) is an interesting first step, the mechanisms that explain these effects still need to be identified. That is, how does the cognitive-behavioral program reduce the link between low intrinsic religiosity and depression? Why and how does being low in extrinsic religiosity buffer against the link between low self-worth and depression for those who had been through the CB program? How does the CB program need to be altered to prevent depression in those who appear to be particularly vulnerable – those with low self-worth and high extrinsic religious beliefs? Future studies should test both moderators and mediators of the relations between interventions and depression.

The current study measured depressive symptoms using two different self-report measures. Despite being highly correlated, the findings were not consistent across these measures. Further work is needed to understand what particular aspects of depression are

captured by each measure and why they relate differently to the cognitive and religion constructs measured here. In addition, although continuous measures of depressive symptoms yield important findings, assessments of clinical diagnoses also would be useful. Future studies should include multiple continuous and categorical measures of depression and examine the relations among them.

Although religiosity was subdivided into intrinsic and extrinsic, and we treated them as distinct constructs, they were correlated, and thus have some overlapping characteristics. Moreover, given that they are measured continuously, most individuals likely will report some degree of both intrinsic and extrinsic religiosity. In addition, although the distinction between intrinsic and extrinsic religiosity make sense both conceptually and empirically, other aspects of religion not measured here also might be important, and should be explored in future studies.

In summary, the present study replicated and extended the prior work of Poessel et al. (2005) by showing that the cognitive-behavioral program reduces depressive symptoms compared to a nonspecific or a no intervention control group, particularly among those low in intrinsic religiosity, or those who are low in both self-worth and extrinsic religiosity. There was no evidence that the nonspecific control condition significantly affected depression symptoms; thus the CB program may provide benefits over and above exposure to a supportive environment. Overall, these results highlight the importance of identifying individual characteristics that may enhance or diminish adolescents' responses to cognitive-behavioral interventions for preventing depressive symptoms.



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Table 1. Demographic and Study Variables by Intervention Condition

	Cognitive-Behavioral	Nonspecific Attention Control	No Intervention Control
N	56	74	87
Gender (% female)	55.4	67.6	66.7
<b>Race</b>			
% Caucasian	83.9	63.5	74.7
% African American	10.7	21.6	14.9
% Other	5.4	14.9	10.4
	<b>M (SD)</b>	<b>M (SD)</b>	<b>M (SD)</b>
Age	14.44 (2.82)	15.04 (4.49)	14.67 (1.74)
<b>Depressive Symptoms</b>			
▪ T1 CDI	7.46 (7.10)	10.95 (8.74)	10.73 (9.69)
▪ T1 CES-D	13.88 (8.68)	18.74 (11.19)	18.22 (10.30)
▪ T2 CDI	7.38 (9.26)	12.51 (9.03)	11.49 (10.34)
▪ T2 CES-D	12.1 (9.49)	20.43 (12.03)	17.96 (12.32)
<b>Religious Beliefs</b>			
▪ Extrinsic	2.07 (.35)	1.88 (.39)	2.09 (.37)
▪ Intrinsic	1.73 (.54)	1.71 (.51)	1.83 (.59)
<b>Cognitive Styles Questionnaire (CSQ)</b>			
▪ Internal Interpersonal	19.71 (8.25)	21.21 (9.58)	23.51 (7.80)
▪ Internal Achievement	24.36 (10.41)	23.36 (10.40)	26.16 (8.66)
▪ Global Interpersonal	14.25 (7.60)	17.11 (7.95)	16.45 (7.86)
▪ Global Achievement	15.20 (7.57)	16.68 (7.63)	17.85 (7.35)
▪ Stable Interpersonal	18.77 (9.89)	18.84 (8.60)	20.63 (9.17)
▪ Stable Achievement	18.89 (10.64)	19.68 (8.10)	20.72 (9.09)
▪ Consequences Interpersonal	11.86 (6.88)	14.18 (7.85)	14.35 (6.82)
▪ Consequences Achieve	13.64 (7.56)	14.81 (7.48)	15.88 (6.98)
▪ Self-worth Interpersonal	12.36 (8.88)	14.90 (9.30)	15.51 (8.71)
▪ Self-worth Achieve	12.04 (7.72)	14.16 (8.26)	14.81 (8.55)

Table 2. Correlations among Study Variables

	M	SD	1	2	3	4	5	6	7	8	9	10
1. Gender	--	--	1.0	-.32	.23	.14	.18	.09	.12	.09	.21	.11
2. Age	14.43	1.86		1.0	.01	.05	-.02	-.05	.03	-.02	.08	.14
3. T1 CES-D	17.18	10.33			1.0	.84	.02	-.14	.49	.54	.60	.63
4. T1 CDI	10.09	8.93				1.0	-.04	-.20	.55	.58	.61	.73
5. T1 Rel Bel - Extrinsic	1.99	.38					1.0	.44	.07	-.06	-.01	-.05
6. T1 Rel Bel - Intrinsic	2.24	.55						1.0	-.02	-.02	-.17	-.21
7. T1 CSQ-SW-Interpersonal	14.48	9.01							1.0	.83	.44	.42
8. T1 CSQ-SW-Achievement	13.87	8.28								1.0	.39	.43
9. T2 CES-D	17.22	11.93									1.0	.83
10. T2 CDI	10.73	9.80										1.0

Correlations  $> .15$  are significant at  $p < .05$

T1 = Time 1; T2 = Time 2; CDI = Children's Depression Inventory; CES-D = Center for Epidemiological Studies-Depression Scale;

Rel Bel = Religious Beliefs; CSQ = Cognitive Styles Questionnaire; SW = Self-worth

Table 3. Intervention condition, intrinsic and extrinsic religious beliefs predicting depressive symptoms (CDI) post-intervention, controlling for baseline depression, gender, age, and ethnicity.

Model	Predictors	R <sup>2</sup> Change	Unstandardized B	t
1		.54***		
	T1 CDI		.79	13.77***
	Gender		.39	.37
	Age		.46	1.51
	Ethnicity		-.02	-.05
	Intervention condition		-5.89	-1.60
2		.01		
	Religious Belief Extrinsic		-5.80	-.91
	Religious Belief Intrinsic		-10.86	-2.36*
3		.02~		
	Condition X Rel Bel Extrinsic		.56	.29
	Condition X Rel Bel Intrinsic		2.38	1.97*
	Rel Bel Ext X Rel Bel Int		2.34	1.12

~ $p < .10$ ; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$



Table 4. Intervention condition, extrinsic religious beliefs, and interpersonal and achievement self-worth predicting depressive symptoms (CES-D) post-intervention, controlling for baseline depression, gender, age, and ethnicity.

Model	Predictors	R <sup>2</sup> Change	Unstandardized B	t
1		.385***		
	T1 CES-D		.61	7.45***
	Gender		2.11	1.41
	Age		.24	.59
	Ethnicity		-.30	.55
	Intervention Condition		-.7.13	-1.23
2		.040*		
	Religious Belief Extrinsic		-8.32	-1.52
	CSQ SW Interpersonal		.84	1.92~
	CSQ SW Achievement		-.75	-1.47
3		.014		
	Cond X Rel Bel Extrinsic		3.88	1.30
	Cond X CSQ SW Interpersonal		-.80	-2.63**
	Cond X CSQ SW Achieve		.98	3.01**
4		.020*		
	Cond X Rel Bel Ext X CSQ SWI		-.32	2.33*
	Cond X Rel Bel Ext X CSQ SWA		-.40	-2.49*

~ $p < .10$  ; \* $p < .05$  ; \*\* $p < .01$  ; \*\*\* $p < .001$

**Figure Captions**

Figure 1. The interaction of intervention condition by intrinsic religious beliefs predicting depressive symptoms (CDI) post-intervention, controlling for baseline depression, gender, age, and ethnicity.

Figure 2. Levels of depressive symptoms at post-intervention as a function of intervention condition, levels of interpersonal self-worth, and extrinsic religiosity.

Figure 1

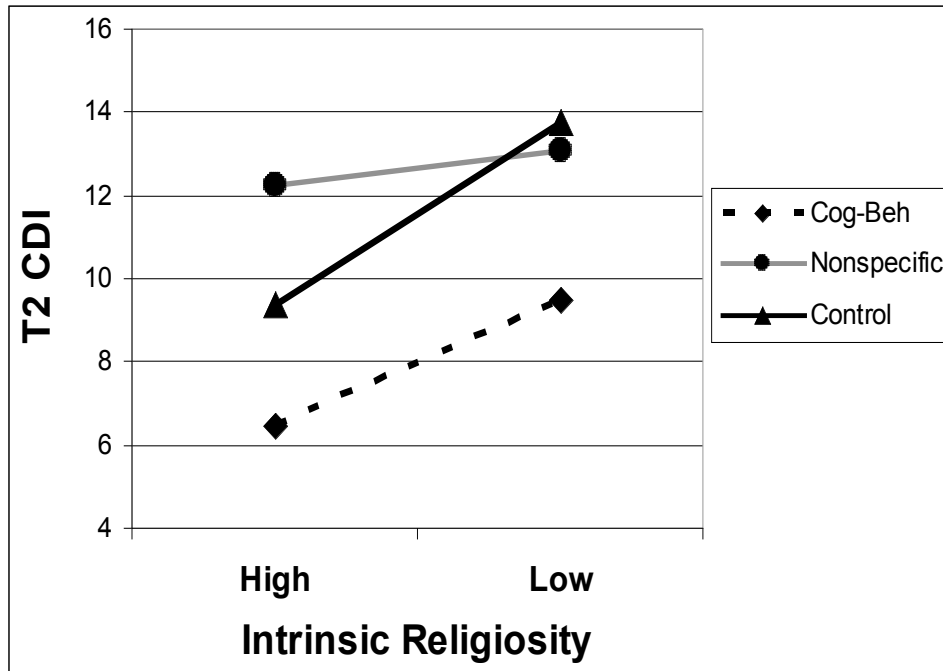
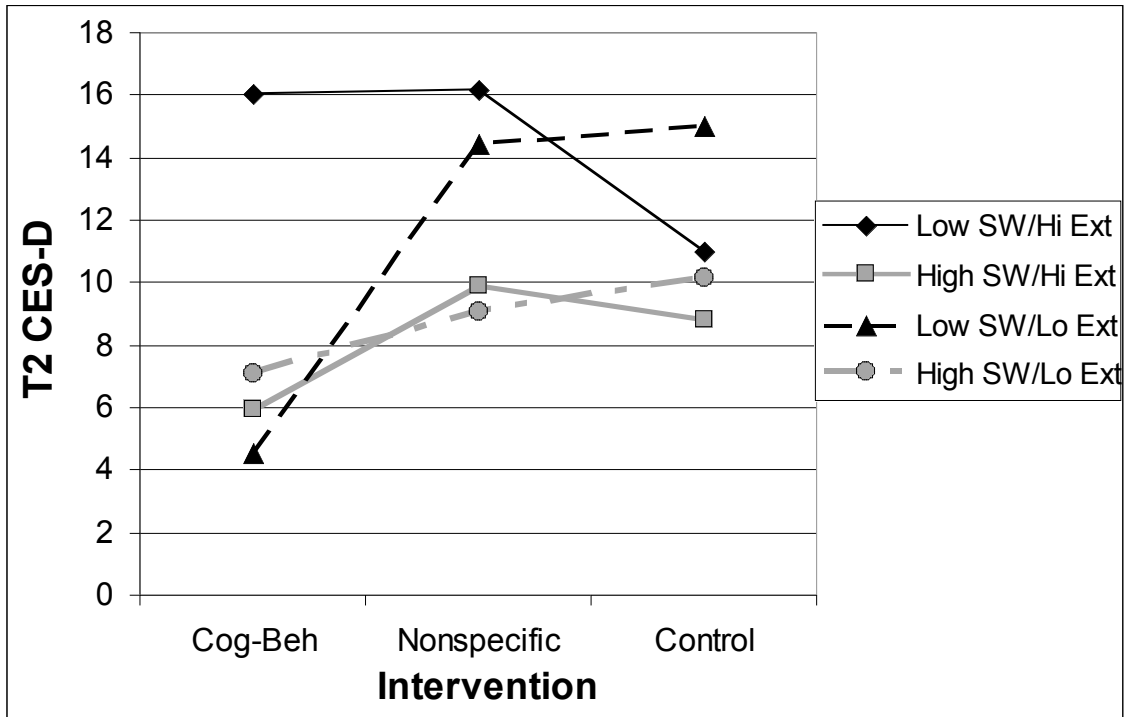


Figure 2



## Appendix A

## Age Universal Intrinsic-Extrinsic Scale

Please circle only one number (1, 2, or 3) in response to each question below.	YES	NOT CERTAIN	NO	
1. I enjoy reading about my religion.	1	2	3	E
2. I go to my place of worship (e.g., church, temple) because it helps me to make friends.	1	2	3	E
3. It doesn't much matter what I believe, as long as I am good.	1	2	3	E
4. Sometimes I ignore my religious beliefs because of what people might think of me.	1	2	3	E
5. It is important for me to spend time in private thought and prayer.	1	2	3	I
6. I often have had a strong sense of God's presence.	1	2	3	I
7. I pray mainly to gain relief and protection.	1	2	3	E
8. I try hard to live my life according to my religious beliefs.	1	2	3	I
9. What religion offers me most is comfort in times of trouble and sorrow.	1	2	3	E
10. My religion is important because it answers many questions about the meaning of life.	1	2	3	I
11. I would rather join a Bible study group than a social group at my place of worship.	1	2	3	I
12. Prayer is for peace and happiness.	1	2	3	E
13. Although I am religious, I do not let it affect my daily life.	1	2	3	E
14. I go to my place of worship (e.g., church, temple) mostly to spend time with my friends.	1	2	3	E
15. My whole approach to life is based on my religion.	1	2	3	I
16. I go to my place of worship mainly because I enjoy seeing people I know there.	1	2	3	E
17. I pray mainly because I have been taught to pray.	1	2	3	E
18. Prayers I say when I'm alone are as important to me as those I say in my place of worship.	1	2	3	I
19. Although I believe in my religion, many other things are more important in life.	1	2	3	E