Irrational Beliefs, Optimism, Pessimism, and Psychological Distress: A Preliminary Examination of Differential Effects in a College Population

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The present study compared the effects of irrational beliefs measured by the Survey of Personal Beliefs (SPB) and optimism and pessimism as measured by the revised Life Orientation Test (LOT-R) on depressive and anxious symptoms 6 weeks later. Results of analysis of variances for both measures of psychological distress indicated a significant main effect for pessimism only. Implications for Ellis' Rational Emotive Therapy are discussed. © 1998 John Wiley & Sons, Inc. J Clin Psychol **54**: 137–142, 1998.

Over the past 25 years, one popular form of psychotherapy has been Albert Ellis' Rational Emotive Therapy (RET; Bernard & DiGiuseppe, 1989), or more recently renamed Rational Emotive Behavior Therapy (REBT; see Ellis, 1995).[1] RET or REBT is based on the A-B-C model of psychological disturbance and therapy where "A" is some activating stressful life event (e.g., frustration, failure, rejection), "B" refers to irrational beliefs, and "C" refers to the psychological and behavioral consequences of these irrational beliefs—i.e., psychological disturbance and maladaptive behaviors.

One of the major assumptions of this model is that a positive relationship exists between the separate constructs of irrational beliefs (B) and psychological disturbance (C). Empirical support for this assumption has been reported in numerous correlational studies (e.g., Chang & D'Zurilla, 1996; Malouff, Schutte, & McClelland, 1992; Muran, Kassinove, Ross, & Muran,

[1] Although there remains considerable disagreement regarding practical and theoretical differences between RET and REBT (Franks, 1995), there has been a growing recognition of the necessity of modifying both cognitions and behaviors for effective therapeutic change (Bernard, 1995).

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1989). However, at least two important limitations have restricted our understanding of the general efficacy of RET theory—irrational beliefs measures have commonly been confounded with the very outcome they are supposed to measure, and there has been limited evidence for the specificity of irrational versus other beliefs for determining emotional distress.

First, according to Smith (1982), one of the problems with popular measures of irrational beliefs like the Irrational Beliefs Test (Jones, 1968) and the Rational Behavior Inventory (Shorkey & Whiteman, 1977) is that some of the items have emotional content that overlaps with the item content in common measures of psychological symptoms (for example, "I get *angry* when *terrible* things happen at work"; Demaria, Kassinove, & Dill, 1989, p. 330). Hence, such overlap may artificially inflate the correlations between measures of irrational beliefs and symptoms. Second, according to Lazarus (1989), there has been little research examining irrational beliefs as discriminant predictors of emotional distress. For example, generalized beliefs such as optimism and pessimism (i.e., expecting the best or worst) have also been related to irrational beliefs (Caryk & Walker, 1986) as well as emotional distress (Chang, D'Zurilla, & Maydeu–Olivares, 1994). Hence, an important question that can be raised is to what extent do irrational beliefs, optimism, and pessimism impact on emotional distress.

Given these concerns, the present study had three goals: to examine the effects of irrational beliefs on other beliefs (viz., optimism and pessimism) and psychological distress and to compare the effects of irrational beliefs, optimism, and pessimism in predicting psychological distress. For the latter, consistent with RET theory, we hypothesized that irrational beliefs would have a significant influence on psychological distress not accounted for by the effects of optimism or pessimism.

METHOD

Participants

Participants were 215 undergraduate students (84 men and 131 women) from a mid-sized Midwestern university. Participants were predominantly White (94.0%). All participants were enrolled in an introductory psychology course and fulfilled a course requirement or obtained extra credit for participating. Ages ranged from 18 to 43, with a mean age of 20.4 years. Men and women did not differ significantly in age.

Measures

Irrational Beliefs. The Survey of Personal Beliefs (SPB; Demaria et al., 1989; Kassinove, 1986) is a 50-item self-report measure of irrational beliefs that is not contaminated by affectively worded items (e.g., Item 12: "I absolutely should not have made certain obvious mistakes in my life"). Respondents are asked to rate these items across a 6-point Likert-style scale from 1 (totally agree) to 6 (totally disagree). The SPB is composed of five irrational beliefs subscales: (1) Self-Directed Shoulds, (2) Other-Directed Shoulds, (3) Awfulizing, (4) Low Frustration Tolerance, and (5) Self-Worth. Because internal consistencies as measured by coefficient α were low for the subscales (α's = .39–.47), we employed the total SPB score to measure the general extent of endorsement of irrational beliefs. Coefficient alpha for the total SPB scale was .80. Lower scores on the SPB scales indicate greater irrationality.

Optimism and Pessimism. The revised Life Orientation Test (LOT-R; Scheier, Carver, & Bridges, 1994) is a 6-item measure (plus 4 filler items) of individual difference in optimism (e.g., Item 1: "In uncertain times, I usually expect the best") and pessimism (e.g., Item 3: "If something can go wrong from me, it will"). Respondents are asked to rate the extent of their agree-

ment to these items across a 5-point Likert-type scale ranging from 0 (strongly disagree) to 4 (strongly agree). The LOT-R is a brief modified version of the original Life Orientation Test (Scheier & Carver, 1985) and has been found to correlate .95 with the latter (Scheier et al., 1994). We employed separate scores to assess for optimism and pessimism.[2] Coefficient αs for the Optimism and Pessimism subscales were .68 and .80, respectively.

Psychological Symptoms. The Symptoms Check List-90-Revised (SCL-90-R; Derogatis, 1983) is a 90-item measure of psychological symptomatology. Respondents are asked to rate the extent to which they have been troubled "during the past week, including today," by specific symptoms across a 5-point Likert-type scale ranging from 0 (not at all) to 4 (extremely). For the present study, we employed the Depression (e.g., feeling blue) and Anxiety (e.g., feeling nervous) subscales of the SCL-90-R. Coefficient αs for the Depression and Anxiety subscales were .90 and .89, respectively.

Procedure

All study measures were administered to either small groups (50 participants or less) or large groups (100 participants or less) in the form of a take home survey which was to be returned the next day of class. At Time 1, all 218 participants completed the LOT-R and the SPB in that order. At Time 2, six weeks later, a subset of these participants completed the Depression and Anxiety subscales of the BSI. Of the initial student sample, 7 women and 3 men failed to complete all study measures at Time 2, and thus their responses were subsequently dropped from the study. This left a total of 208 participants whose responses were matched across time. Participants were not made aware of the purpose of the study until after they had completed all measures. To protect the participants' anonymity, only subject numbers were placed on the instruments. In addition, all participants signed separate consent forms that indicated that all test data would be kept strictly confidential.

RESULTS

The means, standard deviations, and the intercorrelations among the five SPB scales and the total SPB score are presented in Table 1. As Table 1 shows, the subscales of the SPB share a moderate amount of variance with each other (10.2–38.4%) and with the total score (49.0–65.6%).

Examination of the effects of high versus low endorsement of irrational beliefs on optimism, pessimism, and psychological distress are presented in Table 2. High and low classifications were based on a median-split across SPB total scores. As the Table shows, individuals in the high versus low irrational group were found to be more pessimistic, but not less optimistic. Partially consistent with expectations, individuals in the high versus low irrational group reported more depressive symptoms, but not more anxious symptoms at Time 2.

In order to compare the effects of irrational beliefs, optimism, and pessimism on psychological distress at Time 2, we employed an analysis of variance. Separate 2 (high vs. low irrational beliefs) $\times$ 2 (high vs. low optimism) $\times$ 2 (high vs. low pessimism) ANOVAs were conducted for depressive and anxious symptoms. High and low classifications were again based on a median-split for irrational beliefs, optimism, and pessimism. Results of these analyses for

[2] Even after correcting for attenuation, optimism and pessimism continued to share less than 50% of the variance in common ($r = -.68$, $p < .001$). Hence, consistent with the views of some researchers, there may be some reason and value for employing separate measures of these concepts (e.g., Chang, 1996a, 1996b). Here, it is worth noting that Caryk and Walker's (1986) study assessed optimism and pessimism as a unidimensional phenomenon.

Table 1. *Correlations Among Survey of Personal Beliefs Scales*

	AWF	SDS	ODS	LFT	SW	Total Scale
AWF						
SDS	.42					
ODS	.54	.62				
LFT	.41	.55	.48			
SW	.32	.42	.45	.46		
Total Scale	.71	.79	.81	.77	.70	
M	28.77	31.14	29.02	32.82	34.27	155.85
SD	5.17	4.84	5.25	5.24	5.36	19.44

Notes.—*N* = 208. AWF = Awfulizing; SDS = Self-Directed Shoulds; ODS = Other-Directed Shoulds; LFT = Low Frustration Tolerance; SW = Self-Worth.
All correlations, $p < .001$.

psychological distress indicated that pessimism was the only factor that had a significant impact on depressive symptoms, $F(1,200) = 11.27$, $p < .001$, and anxious symptoms, $F(1,200) = 5.78$, $p < .05$. Moreover, none of the interaction terms were found to be significant.

DISCUSSION

The present study found that irrational beliefs had a significant impact on pessimism but not optimism. Specifically, individuals who endorsed more irrational beliefs were found to be significantly more pessimistic, and conversely. In contrast, strong versus low endorsement of irrational beliefs had little impact in determining an individuals' level of optimism (cf., Caryk & Walker, 1986). Hence, these findings are not only consistent with the growing acceptance that optimism and pessimism may better be viewed as reflecting two partially independent constructs (see Chang et al., 1994), but they also lend support for the view that these constructs

Table 2. *Group Differences in Generalized Outcome Expectancies and Psychological Distress*

	Irrational beliefs group					
	High		Low			
Criterion	*M*	*SD*	*M*	*SD*	*t*(1,206)	*p*
Generalized outcome expectancies						
Optimism					−.58	n.s.
	10.26	2.52	10.45	2.26		
Pessimism					2.95	<.005
	8.59	2.73	7.47	2.73		
Psychological distress						
Depression					2.87	<.005
	17.06	11.13	12.80	10.22		
Anxiety					1.24	n.s.
	9.49	7.86	8.13	7.92		

Notes.—*N* = 208. All criteria were assessed at Time 1, expect for psychological distress, which was assessed at Time 2.

may have independent determinants. For example, Chang (1996a) found that cultural factors had a significant impact in determining individuals' level of pessimism, but not optimism, across a matched sample of Asian and Caucasian American college students (see also, Chang, 1996b). Clearly, it would be valuable to determine the extent to which irrational beliefs, optimism, and pessimism influence each other in prospective design study.

Partially consistent with initial expectations, high versus low irrational individuals reported greater depressive symptoms, but not more anxious symptoms. Although other studies have found more limited evidence of discriminant validity (see Smith, 1982), the present findings are nonetheless consistent with the more recent view that neuroticism or negative affectivity is composed of a number of related but distinct facets (e.g., Costa & McCrae, 1992). Hence, the present findings, employing a "decontaminated" measure, suggest that high endorsement of irrational beliefs may lead to distinct emotional consequences. Again, a prospective study in which all measures are given at each time would be useful for identifying the causal direction of these relations.

However, when the effects of irrational beliefs, optimism, and pessimism on depressive and anxious symptoms were examined, only pessimism was found to exert a significant influence on each distress measure. That is, in contrast to what would be predicted by Ellis' RET model, the present findings provide limited support for the discriminant utility of irrational beliefs over more generalized beliefs (viz., expecting negative outcomes). On the other hand, the present findings lend some support for the validity and utility of Beck's (1967) cognitive therapy model, which in part emphasizes the role of generalized expectancies such as optimism and pessimism on psychological distress.

Despite these interesting findings, it remains important to take them as preliminary. Because the present study was conducted on a convenience sample (viz., college students), it is difficult to determine the generalizability of the present findings. For example, it would be necessary to replicate the present findings in a clinical sample before any strong conclusions are drawn regarding the validity and utility of RET/REBT theory and practice. Nonetheless, the present study does provide an important step toward a more systematic and objective analysis of the potential strengths and weaknesses of Ellis' model.

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