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Tian P. S. OEI, Anne C. ETCHELLS and Michael L. FREE

University of Queensland, Private Practice and Griffith University, Australia

Psychologia Society
Department of Psychology
Kyoto University
Sakyo-ku, Kyoto 606-01, Japan

THE RELATIONSHIP BETWEEN IRRATIONAL BELIEFS AND DEPRESSED MOOD IN CLINICALLY DEPRESSED OUTPATIENTS*

Tian P. S. OEI**, Anne C. ETCHELLS and Michael L. FREE

University of Queensland, Private Practice and Griffith University, Australia

Studies into the relationship between irrational beliefs and severity of depression have yielded variable results. Furthermore, there is a lack of information on the nature of this relationship within clinically depressed patients. The paper explores the relationship between BDI scores and individual irrational beliefs as measured by the Irrational Beliefs Test (IBT) in a clinical outpatient group (N=63) with major and minor depressive disorders diagnosed according to Research Diagnostic Criteria, and in a comparison group of university students (N=43). The results of MANOVA analyses showed that the two groups differed significantly in overall level of irrational beliefs and their endorsement of 7 out of 10 irrational belief scales. They also differed as to which irrational belief scale scores were predictive of BDI score. Findings suggested that several Rational Emotive Therapy constructs lack explanatory and predictive power with respect to depressive relationships.

Rational Emotive Therapy (RET) was introduced in the early 1960s (Ellis, 1962). Since then there has been considerable research evidence of a general positive correlation between irrational beliefs as measured by the Irrational Beliefs Test (Jones, 1968) and depressed mood, but it is unclear which particular irrational beliefs relate specifically to depression (Cash, 1984; Ellis & Ratcliffe, 1986; Oei, Henley & Miller, 1993; Zurawski & Smith, 1987).

Studies have shown considerable variability in the relationships found between irrational beliefs and depression even when similar measures of depression and irrational beliefs scales have been used. Two potential sources may account for the variability: the nature of the samples studied, and the lack of distinction between clinical construct such as depression. Review of the literature suggests considerable heterogeneity. Some studies have used unselected undergraduate university students (e.g., Cash, 1984; Hogg & Deffenbacher, 1986; LaPointe and Crandell, 1980; McLennan, 1987), others have used undergraduate students selected for depression or distress (LaPointe & Crandell, 1980), and many have used persons from the general population referred for a variety of reason including poor adjustment, behaviour problems, marital difficulties, spouse abuse, disposition towards suicide as well as clinical depression.

It is highly likely that differences between and amongst samples may account for the differences in the association between depression and specific irrational beliefs.

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** Request for reprints should be made to T. P. S. Oei, Department of Psychology, University of Queensland, Brisbane, Queensland 4072, Australia.

Furthermore, data gathered from undergraduate studies cannot be assumed to generalise adequately to the general population or to specific clinical groups (Nelson, 1977; Zurawski & Smith, 1982). In three recent studies using clinical populations, depression has been found to show a less predictable correlation with particular irrational beliefs than those found in student samples (Ellis & Ratcliffe, 1986; Woods & Muller, 1988; Zurawski & Smith, 1987).

A further problem is the lack of distinction between clinical constructs (Newmark & Ziff, 1977). Measures of anxiety and depression have been shown to be highly positively correlated, to the point where they arguably measure general negative affect (Zurawski & Smith, 1987). Similarly, Lohr, Hamberger, and Bonge (1988) found that certain irrational beliefs predicted both anger and depression in male spouse abusers, but did not distinguish the two. Zurawski and Smith (1987) attempted to deal with the problem of lack of distinction by controlling for general negative affectivity. Unfortunately, their sample was heterogeneous.

It therefore appears likely that the relationship between severity of depression and irrational beliefs is mediated by contextual factors, such as clinical status, social pressures, subcultural goals and values. In order to clarify the relationship, there is a need for studies to compare student and clinical data, with more attention paid to distinguishing between samples that are 'clinical' in the sense of representing formal diagnostic criteria.

The aim of this study was to compare the relationship between depressed mood (as measured by the BDI) and irrational belief scores (as measured by the IBT), in graduate controls and clinically depressed patients. It was anticipated that the clinical group would show higher levels of depression and irrational belief than the graduate group, with High Self Expectation, Frustration Reactivity, Problem Avoidance and Anxious Overconcern being most predictive of BDI score in the student sample. The clinical sample was expected to show a more widespread correlation of irrational beliefs and depression, with Blame Proneness and Helplessness over the Past showing the strongest correlation with BDI scores.

METHOD

Subjects:

106 participants took part in this study, consisting of a clinical sample (N=63) and a graduate non-clinical sample (N=43). The clinical sample was 63 community mental health outpatients referred by G.P.s for the treatment of major or minor depressive disorders. This group was selected according to Research Diagnostic Criteria (RDC), using the Schedule for Affective Disorders and Schizophrenia (SADS) (Endicott and Spitzer, 1978, 1979). A comparison graduate group consisted of 43 senior psychology students from the University of Queensland.

The clinical group was 43 (68%) female and 20 (32%) male clients. Of the graduate sample, 32 (75%) were female and 11 (25%) male. The average age of the graduate sample was 27.0 years, with an age range of 20-46 years. The ages of the clinical sample ranged from 21-67 years, with a mean of 37.6 years.

Questionnaires used:

Subjects completed the Beck Depression Inventory (BDI) and Jones's (1968) Irrational Beliefs Test.

The *Beck Depression Inventory* is a 21 item self-report inventory measuring severity of depression (Beck, Ward, Mendelson, Mock & Erbaugh, 1961). The Inventory was revised in 1979 incorporating revised

wording of the items, and this version was used in the present study. The inventory has been shown to be reliable and valid (Beck, Steer & Garbin, 1988).

The *Irrational Beliefs Test* (Jones, 1968) is a 100-item 5-point rating scale designed to measure the degree to which respondents hold Ellis's 10 principle irrational beliefs. Despite doubts cast on its properties (Lohr & Bonge, 1982), the IBT is widely used, both for clinical and research purposes—perhaps reflecting its status as the best established instrument to date for measuring adherence to Ellis's irrational beliefs. Its use in this study facilitates comparison with the results of other IBT/BDI studies.

Procedure:

Respondents completed the Beck Depression Inventory (BDI) and the Irrational Beliefs Test (IBT). For both groups, participation in the study was on a voluntary basis. Participants in the clinical group were subject to an interview of approximately 75 minutes by a clinical psychologist using the SADS-C and were then diagnosed according to Research Diagnostic Criteria (RDC). This procedure is similar to that described in an earlier study (Free, Oei & Sanders, 1991). Only those meeting RDC for Major and Minor Depressive Disorder were included in the study. They were then asked to complete the BDI and IBT (Jones, 1968), taking approximately 20–30 minutes to do so.

The university sample completed the BDI and IBT anonymously during a class session. No prior information regarding the purpose, of the questionnaire was given, other than that the data was being gathered for research and would remain anonymous. They were given the opportunity to decline to complete the inventories, but none chose to do so.

RESULTS

Data analysis

The analysis was performed using the SAS Statistical Analysis Package. IBT total scores showed an overall positive correlation with BDI scores of .55, which is consistent with previous findings (Nelson, 1977; Zurawski & Smith, 1987). A student *t* test on the BDI scores for the clinical and graduate samples showed that the clinical group had significantly higher mean BDI scores than the control group suggesting that the selection of the two samples is valid. Hypotheses were tested using Multivariate Analysis of Covariance (MANCOVA) to control for effects due to the difference between samples on level of depression.

Between-group differences in IBT subscale scores:

The group mean scores for both sexes for the IBT subscales are presented in Table 1. A MANCOVA of group \times sex on IBT scores controlling for the effect of BDI score on between-group differences, showed a significant main effect of group for three IBT subscales. Univariate results showed that the clinical group gave higher endorsement to Helplessness over the Past ($F=17.59$, $p<.001$), Anxious Overconcern ($F=5.92$, $p<.05$) and Blame Proneness ($F=6.21$, $p<.05$) than the graduate group. There was also a significant main effect of sex for one IBT subscale. After controlling for the effects of depression, female subjects, independently of group, showed a significantly higher degree of Problem Avoidance (Mean score=31.4, S.D.=6.04) than the males (Mean score=29.2, S.D.=5.98) ($F=4.50$, $p<.05$).

Overall and within-group relationships between BDI and IBT subscale scores:

Forward-entry multiple regression analyses of IBT subscores (see Table 2) on BDI scores were used to identify the IBT subscale scores that significantly predicted level of depression (BDI scores) for the sample as a whole, and for the clinical and graduate groups separately.

Table 1. Group x Sex Means, S.D.s and Significant Differences for IBT Subscale Scores, after Controlling for the Effects of Depression

IBT Subscale:	Sex	Clinical: Mean (S.D.)	Graduate: Mean (S.D.)
Demand for Approval	M	31.70 (7.93)	25.45 (7.28)
	F	33.52 (8.61)	27.53 (7.26)
High Self-Expectation	M	30.55 (7.51)	28.63 (5.43)
	F	33.86 (8.25)	29.62 (4.88)
Blame Proneness*	M	30.60 (6.28)	25.45 (5.90)
	F	30.70 (5.91)	26.37 (5.51)
Frustration Reactivity	M	33.20 (5.80)	28.91 (7.17)
	F	34.59 (5.73)	27.97 (4.65)
Emotional Irresponsibility	M	24.25 (5.94)	25.09 (6.07)
	F	27.33 (8.12)	26.72 (5.69)
Anxious Overconcern*	M	33.90 (8.33)	30.18 (6.76)
	F	37.61 (4.95)	28.91 (6.49)
Problem Avoidance	M	32.20 (6.89)	29.90 (6.02)
	F	31.98 (6.03)	25.53 (5.60)
Dependency	M	28.70 (5.57)	28.18 (5.01)
	F	29.13 (5.69)	27.43 (5.53)
Helplessness over the Past***	M	30.35 (9.09)	24.54 (7.81)
	F	34.66 (5.99)	23.72 (7.81)
Perfectionism	M	24.45 (6.64)	24.72 (8.06)
	F	24.95 (4.97)	23.12 (4.82)

Between-group significant differences: *** $p < .001$; * $p < .05$.

Between-sex significant differences: $p < .05$.

For the group as a whole, three IBT subscale scores were significantly predictive of BDI score. Helplessness over the Past, Frustration Reactivity and High Self-Expectation together accounted for 44.72% of the variance in BDI score. No other IBT subscale scores made significant contributions.

For the clinical sample, two subscales of the IBT were significant predictors of BDI variance. High Self-Expectations and Helplessness over the Past accounted for 25.16% of the variance in BDI score. No other IBT subscale score made a significant contribution.

With respect to the graduate sample, three subscale scores were significantly predictive of BDI score. Anxious Overconcern, Problem Avoidance and High Self-Expectation together accounted for 52.33% of the variance in BDI. No other subscale scores made a significant contribution to BDI variance.

DISCUSSION

The hypothesis that the clinical group would show significantly more depression and overall irrational belief than the graduate sample was supported, with respect to

Table 2. Unstandardised and Standardised Estimates, and Squared Partial Correlations (SPC) for IBT subscales significantly Predictive of BDI Score

	Subscale	B	Beta	SPC	F Value
<i>Overall sample</i>	IBT (HP)	0.399	0.300	0.091	46.48***
	IBT2 (HSE)	0.278	0.186	0.322	20.01***
	IBT4 (FR)	0.389	0.225	0.118	5.04*
Total accountable variance=42.72%, df=1,104					
<i>Clinical group</i>	IBT2 (HSE)	0.429	0.328	0.254	16.83**
	IBT9 (HP)	0.386	0.266	0.071	3.94*
Total accountable variance=25.16%, df=1,62					
<i>Graduate group</i>	IBT6 (AO)	0.266	0.392	0.351	29.02***
	IBT7 (PA)	0.250	0.337	0.171	7.22**
	IBT2 (HSE)	0.306	0.345	0.331	4.04*
Total accountable variance=57.78%, df=1,42					
HP=Helplessness over the past		FR=Frustration reactivity			
HSE=High self expectations		AO=Anxious overconcern			
PA=Problem avoidance					

both IBT totals and certain individual irrational beliefs (see Table 1). This finding bears upon the status of Ellis's theories of mood disturbance. Whilst the present results are consistent with the general tenets of Rational Emotive Theory that irrational belief mediates the interaction between activating events and consequent mood, the results of the regression analysis suggest that this process is not as simple as suggested by RET theory. Not all Ellis's irrational beliefs correlate with depressed mood, and there is increasing evidence that selected beliefs relate to mood in a different way for different samples.

The present findings reiterate previous observations regarding the IBT/BDI relationship in university samples—that Anxious Overconcern, Problem Avoidance and High Self-Expectation are predictable correlates of depressed mood or diffuse distress in such a population. This relatively consistent relationship between irrational belief and mood perhaps pertains to the unique characteristics of university life, in that it is a performance-based environment where anxiety, problem evasion and ready disappointment make a person vulnerable to ineffective study behaviour, poor results and, consequently, distressed mood. An alternative interpretation is that university education involves stresses that can result in mood disturbance, in the context of which Problem Avoidance, High Self-Expectation and Anxious Overconcern are increasingly present in response to specific situational demands. Avoidance and anxiety, for example, are understandable, if somewhat dysfunctional, reactions to emotional stress in this setting. Which of these three irrational beliefs are primarily related to student distress and which might constitute a response to pre-existing stresses remains a matter for conjecture.

The findings from the present clinical sample did not show the predicted

occurrence of greater correlation between depression and irrational beliefs subscales. Helplessness over the Past was a correlate of depression predictable from the results of previous studies, but the predicted relationship between depression and Blame Proneness in clinical samples did not eventuate. Instead, like the graduate sample, the depressed patients in this study featured High Self-Expectation as a correlate of raised BDI score.

The relationship of Helplessness over the Past and depression is consistent with the diagnostic nature of the present clinical sample. A somewhat anomalous finding was that, although Helplessness over the Past was significantly related to severity of depression in the clinical sample, it was still a highly significant source of between-group difference even after the effects of depression were controlled for. It is possible that Helplessness over the Past is related to other clinical symptoms, as well as to depression, and as such represented a strong predictor of more general psychopathology in this clinical population. This contrasts with findings from Stake's (1985) earlier sample that Anxious Overconcern was the belief most predictive of general psychopathology.

The absence of Blame-Proneness as a predictive feature may indicate that this belief is more related to other aspects of psychopathology, such as anger or social withdrawal. Whilst the latter is a feature of depressive symptomatology, it relates in the depressed patient to poor self-esteem issues rather than to blaming and resenting others. Therefore, the beliefs that promote social withdrawal in the depressed person may well be different from those that lead an angry person to withdraw.

The finding that, whilst High Self-Expectation was related to depressed mood across groups, Helplessness over the Past, Anxious Overconcern and Problem Avoidance were group-specific correlates of BDI, raises the issue of the role played by cultural influences in mediating the relationship between irrational belief and depressed mood. A further indicator of the importance of such variables was the present conclusion that the female subjects, independently of BDI status and group, showed significantly more belief in Problem Avoidance than males. This contrasted with the findings of Coleman and Ganong (1987) whose American sample of female college students showed significantly higher expectations of being looked after and approved of by others than males, but exhibited no significant differences in avoiding problems. However, these authors did find that those females who saw themselves as having a very 'feminine' sex role showed significantly greater Problem Avoidance than males.

With respect to the relationship between IBT scores and clinically diagnosable depression, it seems from the data that irrational belief subscale scores are more reflective of non-clinical distress than of clinical depression per se-in the present study, accounting for 52% of the graduate group's BDI variance, as opposed to 25% of that in the clinically depressed group. The results appear sensitive to the fact that RET theory provides constructs that relate to diffuse, subclinical terms such as "dysphoric emotion" (Rorer, 1989) and therefore offer less opportunity for predicting the relationship between beliefs and specific mood disorders, either generally or in given

populations. This finding gives weight to Mizes, Morgan and Buder's (1989) observation that:

"trait-oriented approaches to cognitive misappraisal have less predictive utility than do problem, population and/or situation-specific conceptualizations" (p. 177).

Our findings suggest that the relationship between irrational beliefs and depression is much more complex and is dependent on the nature of the sample. Using different groups from different cultural and subcultural backgrounds is likely to produce inconsistent findings, and interpretation cannot be achieved without some control for the prevailing purposes and value systems that impinge on different samples. Certainly, university samples cannot be used as a basis for generalisation to either clinical or other non-clinical populations.

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