A Psychometric Evaluation of the Irrational Beliefs Inventory in a Marital Context

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The measurement of irrational beliefs has been problematic because of contamination by neuroticism, low reliability, and poor factor structure. Koopmans, Sanderson, Timmerman, and Emmelkamp (1994) developed the Irrational Beliefs Inventory (IBI) to address these issues. As yet, few studies have validated its properties. The current study investigated the psychometric properties of the IBI with an Australian, married sample (N = 127). The findings were consistent with Koopmans et al.; specifically, the results indicated the IBI is (a) is reasonably distinct from neuroticism, (b) is reliable, and (c) measures five constructs. Evidence indicated that the Emotional Irresponsibility subscale may need revision. The IBI correlated in the expected direction with both individual and relationship variables.

The view that irrational beliefs cause emotional distress is a central tenet of rational emotive therapy (Kendall et al., 1995). Individuals tend to disturb themselves by reiterating irrational rules and demands about themselves, their relationships, and the world. Rational emotive therapy’s principal aim is to counter any belief or philosophy that effectively sabotages a person’s capacity to be happy and free from anxiety and depression (Ellis, 1986; Ellis & Harper, 1975; Kendall et al., 1995). Clinical interventions and research in cognitive-behaviour therapy (rational emotive therapy is included under this umbrella) rely on the accurate and adequate measurement of irrational beliefs. However, irrational belief measures such as the Irrational Beliefs Test (Jones, 1968) and the Rational Behavior Inventory (Shorkey & Whitman, 1977) have been plagued by poor construct validity, poor reliability, and high correlations with neuroticism (Epstein, 1986; Himle, Haat, Thyer, & Papsdorf, 1985; Lohr & Bonge, 1982; Oei, Hansen, & Miller, 1993).

In order to address these measurement problems, Koopmans, Sanderson, Timmerman, and Emmelkamp (1994) developed the Irrational Beliefs Inventory (IBI). According to the authors, the IBI is superior to the Rational Behavior Inventory and the Irrational Beliefs Test from which it was derived. Specifically, it is shorter, measures five distinct facets of irrational beliefs, distinguishes irrational beliefs from neuroticism, and is more reliable. The authors claim that the IBI measures the following five facets of irrational beliefs: (a) worrying, the tendency to worry over possible misfortune; (b) rigidity, holding high moral standards for oneself and others and having a rigid, punitive attitude towards the enforcement of such standards; (c) problem avoidance, having difficulty taking responsibility and dealing with problems; (d) need for approval, feeling the need to have the approval and respect of others; and (e) emotional irresponsibility, attributing emotions to external circumstances rather than oneself. However, there has been a lack of empirical evidence substantiating the psychometric properties of the IBI.

Research on the IBI has mostly been undertaken with adult or student samples rather than married participants (e.g., Bridges & Roig, 1997; Roig, Bridges, Hackett Renner, & Jackson, 1998). However, it has been increasingly recognised that irrational cognitions play an important role in distressed relationships. Möller and Van Zyl (1991) argued that thought content and style have a significant influence on individual relationship adjustment. Beck (1988) contended that relationship difficulties are exacerbated by irrational expectations about love and the extent to which romantic relationships need to be actively sustained. Ellis (1986) proposed that rational emotive therapy is helpful in changing the way individuals avoid taking responsibility for their own disturbances and failings that undermine relationships, and the elements within their family and marital system that exacerbate relationship problems. Hence, irrationality is damaging to individuals and the relationships they are involved in.

It has been recognised that individual therapy can be strengthened by attending to marital behaviours and distress (Baucom, Shoham, Muesler, Daiuto, & Stickle, 1998; Compas, Haaga, Keefe, Leitenberg, & Williams, 1998). However, the association between relationship functioning and individual symptoms remains somewhat unclear (Baucom et al., 1998). Hence, it would be desirable to measure both individual and relationship irrationality.
and to study individuals in the context of their relationships. This can potentially enrich the assessment of distress and assist in clarifying the components of cognitive therapy that are producing therapeutic change (Garfield, 1998). Thus, the aim of this study was to examine the psychometric properties of the IBI with Australian participants in intact medium-term marital relationships.

In developing the IBI, the authors pooled the items of the Rational Behavior Inventory and the Irrational Beliefs Test (total number of items = 137) and factor analysed these. In taking this approach, Koopmans et al. (1994) failed to take into account revised conceptualisations of the role of emotions in irrational beliefs (Kendall et al., 1995). For example, Ellis and Harper (1975) noted that:

> We erroneously stated and implied that you could feel sorry, sad and unhappy but if you experienced these feelings strongly you behaved neurotically. We now realise that this distinction has little legitimacy since even your exceptional sorrow or displeasure may prove appropriate. (p. 207)

Thus, although initially Ellis and Harper (1975) argued that the presence of strong emotions indicated neuroticism, their revised view was that strong emotions may be a healthy response if they are not accompanied by feelings of "depression, despair, shame or self-doubting" (p. 207). They argued that it is irrational to believe that "emotional misery comes from external pressures and that you have little ability to control or change your feelings" (p. 138). In a further conceptual revision of the rational emotive therapy philosophy, Ellis retracted his use of the terms appropriate and inappropriate emotions (used in the 1975 revision; see above) and instead used healthy and helpful and unhealthy and unhelpful instead (Ellis, 1995; Kendall et al., 1995).

Because the IBI was based on scales that preceded these revisions, Koopmans et al. (1994) failed to take into account revised conceptualisations of the role of emotions in irrational beliefs (Kendall et al., 1995). For example, Ellis and Harper (1975) argued that religious participants' would tend to have more irrational beliefs. Furthermore, Ellis and Harper (1975) suggested that religious overtones in the IBI subscale of Rigidity. Roig et al. (1998) reported a weak correlation between the IBI and religiosity. However, their measure of religiosity assessed beliefs in paranormal phenomena (Tobacyk & Milford, 1983). To more accurately reflect any relationship with aspects of irrationality, a more comprehensive measure of religiosity was employed. It was expected that religious participants would tend to be more rigid in their thinking.

**Construct Validity**

Validation is the process of gathering and evaluating validity evidence (Messick, 1989). The first validation step in our study was to determine the dimensionality of the underlying structure of the IBI. This is typically undertaken by factor analysis (Cohen, Swerdik, & Phillips, 1996; Murphy & Davidshofer, 1998). The next step was to identify theoretical relationships and to examine the construct validity evidence (Sussman & Robertson, 1986). In order to examine the construct validity of the IBI, the current study examined the relationship between the IBI and three personal characteristics (neuroticism, self-esteem, and religiosity) and four relationship characteristics (relationship irrationality, intimacy, commitment, and marital satisfaction).

**Personal Characteristics**

**Neuroticism.** Koopmans et al. (1994) claimed that a key feature of the IBI is that it discriminates between neuroticism and irrational beliefs. A criticism of earlier measures of irrational beliefs was that they failed to discriminate between irrational beliefs and neuroticism (Kendall et al., 1995; Osi et al., 1993). For example, Zarawski and Smith (1987) found that both the Rational Behavior Inventory and the Irrational Beliefs Test were highly correlated with anxiety ($r = .77$ and $.70$ respectively) and depression ($r = .70$ and $.59$ respectively). However, other authors have found a weak ($r = .35$; Cash, 1984) or moderate ($r = .53$; Nelson, 1977) relationship between the Irrational Beliefs Test and the Beck Depression Inventory (Beck, 1967). Given this claim, it seems important to evaluate the discriminant validity of the IBI relative to neuroticism.

**Self-esteem.** Theoretical (Beck, 1988) and empirical (McLennan, 1987) evidence suggests that people with low self-esteem are more likely to have irrational beliefs. Thus, it was expected that participants who have higher self-esteem would be less likely to endorse irrational beliefs.

**Religiosity.** Religiosity was included because of the religious overtones in the IBI subscale of Rigidity. Roig et al. (1998) reported a weak correlation between the IBI and religiosity. However, their measure of religiosity assessed beliefs in paranormal phenomena (Tobacyk & Milford, 1983). To more accurately reflect any relationship with aspects of irrationality, a more comprehensive measure of religiosity was employed. It was expected that religious participants would tend to be more rigid in their thinking.

**Relationship Characteristics**

**Relationship irrationality.** To enhance the efficacy of cognitive marital therapy, Baucom, Epstein, Sayers, and Sher (1989) emphasised the importance of distinguishing between general irrational beliefs and relationship irrational beliefs. Eidelson and Epstein (1982) developed the Relationship Belief Inventory to assess irrational beliefs that are specific to relationships. Both the IBI and the Relationship Belief Inventory assess the cognitive aspects of individual distress in different, yet overlapping domains. While the extent of this overlap is unknown, it is expected that the IBI and the Relationship Belief Inventory will be moderately correlated. This moderate correlation will be taken as evidence of construct validity of the IBI.

**Intimacy.** According to Sternberg (1986), intimacy is central to a mature and satisfying relationship. In order to be intimate, an individual needs to be open, trusting, and communicative (Sternberg, 1998). Schaefer and Olson (1981) found that intimacy was positively related to healthy relationship factors such as marital satisfaction, self-disclosure, couple cohesion, and expressiveness, and negatively related to conflict and control. Ball and Henning (1981) suggested, on the basis of their clinical practice, that specific irrational beliefs undermined intimacy. These findings suggest that individuals who experience low relationship intimacy may tend to have more irrational beliefs.

**Commitment.** Sternberg (1986) also suggested that commitment is central to healthy, balanced relationship functioning since it maintains a relationship through hard times. However, because commitment may sometimes stem from a perception of poor alternatives or because of feeling trapped in a marriage (Adams & Jones, 1997; Rusbult, Verette, Whitney, Slovic, & Lipkus, 1991), highly committed individuals may actually have more irrational beliefs. Thus, the present examination of the relationship between commitment and irrational beliefs was exploratory.

**Relationship satisfaction.** Relationship satisfaction was examined since it measures the outcome of an individual's relationship tendencies. Relationship satisfaction has been linked to positive partner perceptions, optimism, trust, and constructive relationships (Murray & Holmes, 1997). Bradbury and Fincham (1988) found that individuals who
had higher levels of irrational beliefs were more likely to regard their partner’s destructive behaviour as caused by stable qualities rather than circumstances, and were more likely to be dissatisfied in their relationship. Relationship satisfaction is responsive to both cognitive distortions that exacerbate relationship difficulties, and positive and constructive cognitive tendencies. Thus, it was expected that participants who are satisfied in their relationship would tend to have fewer irrational beliefs.

**METHOD**

**Participants**

Participants were 127 parents of primary school aged children who were in an intact relationship of between 5 and 25 years’ duration (M = 15.23 years, SD = 4.36). There were 84 (66%) females who had an average age of 38.12 years (SD = 4.21) and 41 males who had an average age of 39.51 years (SD = 4.74). Two participants had missing values for gender. Participants were not asked their income, but educational and occupational demographics indicated a middle-class bias. While a random sample of school principals from all over metropolitan Melbourne was approached to participate, the principals in poorer suburbs were more reluctant to participate because of the higher percentage of parents from non-English-speaking backgrounds.

**Measures**

**Irrational beliefs.** The Irrational Beliefs Inventory (Koopmans et al., 1994) is a 50-item scale that measures general irrational beliefs that are linked to emotional distress. The scale includes five factors: worrying (12 items), rigidity (14 items), problem avoidance (10 items), demand for approval (7 items), and emotional irresponsibility (7 items). The response format was a 6-point Likert-type scale from 1 (totally disagree) to 6 (totally agree).

**Personal Characteristics**

**Neuroticism.** The Neuroticism subscale (24 items) of Eysenck’s Personality Inventory (Eysenck & Eysenck, 1987) assesses levels of neuroticism using a yes/no response format.

**Self-esteem.** Rosenberg’s (1965) Self-Esteem Scale was used to assess participants’ perception of their personal worth. Participants rated 10 items on a 6-point Likert-type scale from 1 (totally disagree) to 6 (totally agree).

**Religiosity.** A comprehensive scale was devised by the first author to assess the quality and importance of the participant’s relationship with his or her God, and their engagement in religious practices. It was not necessarily assumed that participants’ approach to God was influenced by Christian or indeed any formal religious doctrine. Exploratory factor analysis suggested that the items assess a single dimension. Internal consistency was high (Cronbach’s alpha = .96). The 14 items included “I read Holy Scriptures often” and “My belief in God is a comfort to me”. It used a 6-point Likert-type scale from 1 (very untrue of me) to 6 (very true of me).

**Relationship Characteristics**

**Irrational beliefs about relationships.** The Relationship Belief Inventory (Eidelson & Epstein, 1982) was used to assess relationship irrationality. This scale has five 8-item subscales: Disagreement is Destructive, Mindreading is Expected, Partners Cannot Change, Sexual Perfectionism, and The Sexes are Different. The response format consisted of a 6-point Likert-type scale from 1 (I strongly believe the statement is false) to 6 (I strongly believe the statement is true).

**Intimacy.** Individuals’ tendencies to experience emotional, social, sexual, intellectual, and recreational closeness with their partner were measured using Schaefer and Olson’s (1981) 36-item Personal Assessment of Intimacy in Relationships scale. The response format was a 6-point Likert-type scale from 1 (totally disagree) to 6 (totally agree).

**Commitment.** The extent to which individuals reported wanting to continue their relationship was measured using Adams and Jones’ (1997) Marital Commitment Scale. This scale has three subscales: Commitment to Spouse (19 items), Feelings of Entrapment (13 items), and Commitment to Marriage (13 items). The response format was a 6-point Likert-type scale from 1 (I strongly believe the statement is false) to 6 (I strongly believe the statement is true).

**Marital satisfaction.** The Kansas Marital Satisfaction Scale (Schumm et al., 1986) is a three-item measure of marriage, partnership, and relationship satisfaction. The response format was a 6-point Likert-type scale from 1 (extremely dissatisfied) to 6 (extremely satisfied).

**Procedure**

Participants were parents of children in government and non-government primary schools in the Melbourne metropolitan area (Australia). After obtaining Education Department permission, we approached principals of primary schools to advertise the research in their newsletter. One dollar was paid to the primary school fund-raising committee for every questionnaire completed and returned. Parents of children in Catholic and private schools were approached using the snowball method, and were not paid for their participation. All participants were in intact relationships of between 5 and 25 years. The data were collected over a 6-month period. Four differently-ordered versions of the questionnaires were used, and no order effects were found. The data reported in this study formed part of a larger study on irrational beliefs.

**RESULTS**

**Factor Analysis of the IBI**

Exploratory factor analysis with a maximum likelihood extraction was used to examine the underlying constructs in the IBI. Cattell’s scree test indicated five to seven factors. Extraction of six or seven factors led to an uninterpretable solution compared to a five-factor solution, and no additional variance was explained. Thus, a five-factor structure was the best solution. A varimax rotation indicated that all of the items loaded on the appropriate constructs, with the exception of five cross-loadings. A five-factor solution explained 38% of the variance, which replicates the amount of variance explained by Koopmans et al. (1994). The findings of this study confirm the view that the IBI measures five distinct aspects of irrational beliefs.

**Gender Differences**

The Worrying subscale was the only IBI subscale to demonstrate a significant gender difference, with women scoring higher (M = 43.34, SD = 8.42) than men (M = 39.49, SD = 7.19), t(121) = 2.51, p < .05. The trend of gender differences in the current study was consistent with the original study, with women having higher total irrational belief and need for approval scores and lower rigidity scores than men, although these differences were not significant in the current study.
Construct Validity

Personal Characteristics

Because research has shown that it is difficult to distinguish between irrational beliefs and neuroticism, we examined both correlations and partial correlations (controlling for neuroticism) between the IBI and the variables of interest. These are presented in Table 2, together with the findings of Koopmans et al. (1994) in squared parentheses across the top row. It can be seen that the correlations between the IBI subscale scores and neuroticism were very similar to the original study. Consistent with Koopmans et al., our findings support the notion that the IBI adequately discriminates irrational beliefs from neuroticism.

The partial correlations show that neuroticism partly explains the relationship between the IBI and all scales except religiosity, marital satisfaction, and marital commitment. That is, significant relationships between the IBI and self-esteem, relationship beliefs, intimacy, and marital satisfaction tended to be weaker when the variance explained by neuroticism was controlled for. However, most of the relationships remain significant when neuroticism is partialled out, which indicates that irrational beliefs explain unique variance in personal and relationship characteristics. An exception is the Worrying subscale. Once the effect of neuroticism was partialled out, no variable remained significantly correlated with it. This suggests that it may be contaminated by neuroticism.

The IBI total score was negatively correlated with self-esteem (r = -.48), which suggests that people who adhere to irrational beliefs tend to have a poorer self-concept. Rigidity was the only subscale to correlate significantly with religiosity (r = .37). This implies that people scoring more highly on religiosity tend to be more concerned with guilt, blame for mistakes, or deviations from strict values or norms.

Relationship Characteristics

The positive correlation between the IBI total score and relationship irrationality (r = .41) was consistent with

### TABLE 1

Reliabilities, Intercorrelations, and Descriptive Statistics of the Irrational Beliefs Inventory

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Worrying</td>
<td>[79]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Rigidity</td>
<td>.12</td>
<td>[75]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Need for Approval</td>
<td>.38*</td>
<td>.28*</td>
<td>[76]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Problem Avoidance</td>
<td>.37*</td>
<td>.16</td>
<td>.38*</td>
<td>[77]</td>
<td></td>
</tr>
<tr>
<td>5. Emotional Irresponsibility</td>
<td>.05</td>
<td>-.33*</td>
<td>-.04</td>
<td>.04</td>
<td>[71]</td>
</tr>
<tr>
<td>6. Total IBI-scale</td>
<td>.74*</td>
<td>.48*</td>
<td>.66*</td>
<td>.68*</td>
<td>.16</td>
</tr>
<tr>
<td>Mean</td>
<td>42.06</td>
<td>45.44</td>
<td>24.62</td>
<td>24.84</td>
<td>25.18</td>
</tr>
<tr>
<td>SD</td>
<td>8.15</td>
<td>6.90</td>
<td>5.27</td>
<td>5.81</td>
<td>5.33</td>
</tr>
<tr>
<td>Absolute range</td>
<td>12.00-72.00</td>
<td>14.00-84.00</td>
<td>7.00-42.00</td>
<td>10.00-60.00</td>
<td>7.00-42.00</td>
</tr>
</tbody>
</table>

Note: Cronbach's alpha reliability coefficients are represented on diagonals.

* p < .05.

### TABLE 2

Correlations and Partial Correlations (Controlled for Neuroticism) Between the Irrational Beliefs Inventory and Personal and Relationship Variables

<table>
<thead>
<tr>
<th>Worrying</th>
<th>Rigidity</th>
<th>Need for Approval</th>
<th>Problem Avoidance</th>
<th>Emotional Irresponsibility</th>
<th>IBI Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Neuroticism</strong></td>
<td>.68** (.75*)</td>
<td>.05 (.06)</td>
<td>.40** (.44*)</td>
<td>.37** (.26*)</td>
<td>-.06 (.10*)</td>
</tr>
<tr>
<td><strong>Self-esteem</strong></td>
<td>-.41** (-.15)</td>
<td>-.02 (.15)</td>
<td>-.38** (-.20*)</td>
<td>-.42** (-.32*)</td>
<td>-.11 (.02)</td>
</tr>
<tr>
<td><strong>Religiosity</strong></td>
<td>-.06 (-.09)</td>
<td>.37** (.41*)</td>
<td>.12 (.12)</td>
<td>-.01 (.09)</td>
<td>-.15 (-.19)</td>
</tr>
<tr>
<td><strong>Relationship Belief Inventory</strong></td>
<td>.28** (-.09)</td>
<td>.19 (-.18)</td>
<td>.29** (.17)</td>
<td>.42** (.35*)</td>
<td>-.04 (-.06)</td>
</tr>
<tr>
<td><strong>Disagreement is Destructive</strong></td>
<td>.24** (.12)</td>
<td>.12 (.15)</td>
<td>.35** (.24)</td>
<td>.40** (.35*)</td>
<td>-.07 (-.10)</td>
</tr>
<tr>
<td><strong>Mindreading is Expected</strong></td>
<td>.27** (.01)</td>
<td>.25** (.21)</td>
<td>.30** (.26)</td>
<td>.39** (.32*)</td>
<td>-.08 (-.12)</td>
</tr>
<tr>
<td><strong>Partners Cannot Change</strong></td>
<td>.11 (.02)</td>
<td>-.08 (-.12)</td>
<td>.03 (-.07)</td>
<td>.23** (.17)</td>
<td>.06 (.11)</td>
</tr>
<tr>
<td><strong>Sexual Perfectionism</strong></td>
<td>.18 (.07)</td>
<td>.23 (.19)</td>
<td>.25** (.27*)</td>
<td>.18 (.14)</td>
<td>.02 (.03)</td>
</tr>
<tr>
<td><strong>The Sexes AreDifferent</strong></td>
<td>.08 (.05)</td>
<td>.12 (.11)</td>
<td>-.04 (-.18)</td>
<td>.19 (.05)</td>
<td>-.08 (-.08)</td>
</tr>
<tr>
<td><strong>Intimacy</strong></td>
<td>.04 (.14)</td>
<td>.05 (.09)</td>
<td>-.11 (-.08)</td>
<td>-.38** (-.27**)</td>
<td>.06 (.02)</td>
</tr>
<tr>
<td><strong>Commitment</strong></td>
<td>-.12 (.06)</td>
<td>.10 (.14)</td>
<td>-.24** (-.22*)</td>
<td>-.31** (-.17)</td>
<td>.02 (.03)</td>
</tr>
</tbody>
</table>

Note: Figures in squared parentheses represent correlations of the IBI subscales and neuroticism obtained in Study 3 of Koopmans et al. (1994). Significance levels in Koopmans et al. were only quoted at the .05 level. Figures in rounded parentheses are correlations with neuroticism partialled out.

* p < .05. ** p < .01.
expectations and provides evidence of construct validity. Need for approval and problem avoidance correlated most strongly with the Relationship Belief Inventory. Thus, individuals who seek approval from others and avoid problems are more likely to have irrational relationship beliefs. Intimacy was significantly related only to problem avoidance. Thus, people who are reluctant to face problems are less likely to enjoy a close relationship with others.

Interestingly, the total IBI score and both feeling trapped in marriage and committed to marriage as an institution are more strongly correlated when the influence of neuroticism is controlled for. This indicates that the relationship between the commitment variables and the IBI is masked to some extent by the presence of neuroticism. The tendency to fluctuate emotionally, worry, or be sad blurs the relationship between commitment and irrational beliefs. Problem avoidance and need for approval were negatively correlated with marital satisfaction; hence, participants who avoided problems and wanted others to approve of them were less likely to be happily married. The current study adds empirical weight to the theoretical concerns regarding the Emotional Irresponsibility subscale. Emotional irresponsibility failed to correlate significantly with the IBI scale as a whole (Table 1) and with any relationship and personality variables in particular (Table 2).

We were interested in how strongly the IBI and the Relationship Belief Inventory were related to the personal and relationship characteristics of interest. Tables 2 and 3 present the respective findings. Compared to the Relationship Belief Inventory, the IBI is more strongly related to neuroticism, self-esteem, feelings of entrapment, and commitment to marriage. On the other hand, the Relationship Belief Inventory is more strongly related to commitment to spouse, intimacy, and marital satisfaction. Overall, these findings suggest that the Relationship Belief Inventory is more oriented to relationship-specific irrationality. The pattern of correlations, however, suggests that the IBI and the Relationship Belief Inventory both measure important, though distinct, aspects of relationship functioning.

**DISCUSSION**

The findings of this study confirm that the IBI measures five distinct aspects of irrational belief and differentiates between neuroticism and irrational beliefs. While the scale generally correlates significantly with both personal and relationship variables in the expected direction, the Emotional Irresponsibility subscale was uncorrelated with the full IBI scale and thus may need revision.

**Construct Validity**

**Personal Characteristics**

While Ellis and Harper (1975) and Koopmans et al. (1994) readily acknowledge the strong relationship between neuroticism and irrational beliefs, they maintain that they are theoretically and empirically distinguishable. The correlation between the full-scale IBI and neuroticism was .56. Thus, 31% of the variance is shared and 69% remains unexplained. A correlation of .56 suggests a moderate degree of overlap between irrational beliefs and emotional distress and the possibility of insufficient discriminant validity. However, it is important to note that the partial correlations showed that, after neuroticism was controlled for, the IBI explains unique variance over and above that of neuroticism. Further, the subscales of Rigidity and Emotional Irresponsibility were uncorrelated with neuroticism, and Need for Approval and Problem Avoidance were only weakly correlated with neuroticism. The finding that neuroticism differentially correlates with the subscales of the IBI provides further evidence of the construct validity of the IBI (Messick, 1989). The findings suggest that irrational beliefs about high moral standards and attributed emotions to external circumstances are unrelated to anxiety. On the other hand, there is a modest association between anxiety and irrational beliefs about the need for approval from others and avoiding problems. In summary, we would argue that the evidence of this research supports the notion that the IBI distinguishes between irrational beliefs and emotional distress.

The only IBI subscale to correlate significantly with religiosity was Rigidity, which is consistent with previous research (Roig et al., 1998) and Koopmans and colleagues’ (1994) definition of rigidity. This relationship reflects the religious content of the items of rigidity. Religious individuals who attempt to live by moral precepts, may be more rule-oriented than their nonreligious counterparts. As hypothesised, a negative relationship was found between the IBI and self-esteem. This was taken as evidence of construct validity.

**Relationship Characteristics**

The moderate correlation between the IBI and the Relationship Belief Inventory provided further evidence of construct validity. The magnitude of the overlap suggests that each scale measures different aspects of irrationality. It seems that the Relationship Belief Inventory and the IBI complement one another and should ideally both be included in measures of irrationality in couples.

**TABLE 3**

<table>
<thead>
<tr>
<th>Correlations Between the Relationship Belief Inventory and Personal and Relationship Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal characteristics</td>
</tr>
<tr>
<td>Neuroticism</td>
</tr>
<tr>
<td>Self-esteem</td>
</tr>
<tr>
<td>Religiosity</td>
</tr>
<tr>
<td>Relationship characteristics</td>
</tr>
<tr>
<td>Intimacy</td>
</tr>
<tr>
<td>Commitment</td>
</tr>
<tr>
<td>To Spouse</td>
</tr>
<tr>
<td>Feelings of Entrapment</td>
</tr>
<tr>
<td>To Marriage</td>
</tr>
<tr>
<td>Marital Satisfaction</td>
</tr>
<tr>
<td>RBID</td>
</tr>
<tr>
<td>RBIC</td>
</tr>
<tr>
<td>RBIMF</td>
</tr>
</tbody>
</table>

**Note**: RBID = Relationship Belief Inventory, RBIC = Disagreement is Destructive, RBIM = Mindreading is Expected, RBIC = Partners Cannot Change, RBIS = Sexual Perfectionism, RBIMF = The Sexes are Different.

*p < .05, **p < .01.

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Problem Avoidance was the only subscale to be correlated with intimacy, and was moderately correlated with relationship variables in general. Participants who subscribed to problem avoidance tended to be less committed to their spouse, less intimate, less satisfied with their relationship, and were more likely to have irrational beliefs about relationships and feel trapped in their marriage. The negative correlation between problem avoidance and intimacy, and the positive correlation between problem avoidance and disagreement is destructive (a Relationship Belief Inventory Subscale) indicates that if participants are unwilling to deal with difficulties in their relationships, they will tend to be less intimate and satisfied.

The positive relationship between the IBI and commitment to marriage seems counter-intuitive. However, Rusbult et al. (1991) proposed that people have high relationship commitment for complex reasons “because they have invested so much, have poorer alternatives, doubt their social worth, or experience strong normative support for their relationship” (p. 56). These authors imply that negative self-concepts can be related to commitment and these self-concepts may in turn be related to irrational beliefs.

Subscale Analysis

Emotional Irresponsibility

The current findings suggest that the Emotional Irresponsibility subscale may need revision. Koopmans et al. (1994) and the current study found that the correlations of the Emotional Irresponsibility subscale with other IBI subscales were either weak or nonsignificant. The current study and Bridges and Roig (1997) found that emotional irresponsibility was weakly related to IBI total score. Cash (1984), McLennan (1987) and Nelson (1977) showed that emotional irresponsibility items in the IBI were not related to psychopathology. It also could be argued that items which purported to represent rational notions in the Emotional Irresponsibility subscale actually presented an unreasonable or extreme perspective. For instance, Item 17 states “Nothing is upsetting in itself — only the way you interpret it” (Koopmans et al., 1994), whereas most people would argue that the death of a family member, for instance, is certainly upsetting. The reconstructed Emotional Irresponsibility subscale should have taken into account the revised conceptualisation of irrational beliefs (e.g., Ellis & Harper, 1975; Kendall et al., 1995). A further problem is that items were also all scored in a rational direction, which is more likely to invite response bias (Groth-Marnat, 1997).

Worrying

The findings showed the Worrying subscale correlated moderately with neuroticism and was unrelated to all variables when the influence of neuroticism was partialled out. The evidence indicates that this subscale may be contaminated by neuroticism. This reflects the conceptual overlap between neuroticism, anxiety, worry, and irrational beliefs in the irrational beliefs literature, illustrated in the following statement by Ellis and Harper (1975): “we can approach and control anxiety by straight thinking. For anxiety, basically, consists of Irrational idea No. 6: The idea that if something seems dangerous or fearsome, you must preoccupy yourself with and make yourself anxious about it” (p. 145). In addition, Ellis and Harper (1975) defined anxiety as “overconcern, of exaggerated or needless fear” (p. 145) but did not specify the relationship between anxiety and belief structures, nor distinguish between the two concepts. The lack of conceptual distinctiveness between anxiety, worry, irrational beliefs, and neuroticism is potentially problematic for researchers. Further research is needed to address this issue.

Limitations, Future Research, and Implications

Although the community-based sample of married participants was a strength, the sample of this study was somewhat small for exploratory factor analysis. There is a need for further research on the underlying factor structure with larger samples. Larger samples would permit the use of the more rigorous technique of confirmatory factor analysis (CFA). The advantage of this approach is that (a) it provides a formal test of how well the observed data fit a theoretical model (Bollen, 1989), (b) measurement error is taken into account, and (c) competing models can be compared (Loehlin, 1992). CFA could also be used to further test the distinctiveness of irrational beliefs as measured by the IBI and Neuroticism. Prior to conducting further research with the IBI it is suggested that items in the Emotional Irresponsibility subscale be revised. Consistent with more recent conceptualisations (Ellis & Harper, 1975; Kendall et al., 1995), the Emotional Irresponsibility subscale should be revised to assess persistent negative affect that indicates the emotional expression of disturbed, irrational thinking.

While cognitive behavioural therapy enjoys widespread use, irrational beliefs need to be measured by reliable and valid scales and the IBI represents an important advancement in this area. Although some minor adjustments to the Emotional Irresponsibility subscale are recommended, the findings of this study have shown that the IBI is psychometrically sound and its continued use in relationship and individual dysfunction research is advocated.

References


