Borderline personality disorder, substance abuse, and dialectical behavior therapy
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CHAPTER 4

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Predicting self-damaging and suicidal behaviours in female borderline patients: reasons for living, coping, and depressive personality disorder

Summary

Objective: The aims of this study are to examine (1) whether reasons for living predict self-damaging and suicidal behaviours, the associations of reasons for living with coping strategies and depressive personality disorder (PD), and (3) the unique predictive validity of reasons for living in a multivariate predictor model.

Design: Reasons for living, coping strategies and depressive personality disorder were measured at baseline in 38 patients who met DSM-IV criteria for BPD. Frequency of self-damaging and suicidal behaviours in the 6-month period following baseline was measured prospectively at 3 and 6-month follow-up.

Results: The RFL has only one subscale that predicts parasuicidal behaviours, i.e. Survival and Coping Beliefs (scB). Participants who scored low on this subscale were 6.8 times more likely to exhibit self-damaging and suicidal behaviours in the follow-up period than their high-scoring counterparts. However, scB was substantially correlated with the coping strategies 'reassuring thoughts', 'active coping' and 'palliative reaction pattern', and with the number of depressive personality traits. In a multivariate model, the predictive power of scB appeared to be accounted for by reassuring thoughts and depressive PD.

Conclusion: Coping scales might be preferable over the RFL as a predictor of self-damaging and suicidal behaviours in borderline patients.
Introduction

Self-damaging and suicidal behaviours are frequently occurring phenomena in individuals meeting the diagnostic criteria of borderline personality disorder (BPD). The majority of patients with BPD engage in suicide attempts and/or self-mutilation, and 7-9% of them eventually die because of suicide (Perry, 1993). It has been suggested self-damaging and suicidal behaviours in borderline patients are inversely associated with the quantity and quality of the reasons for living (or reasons to stay alive) these individuals may have. More specifically, it has been suggested that those patients who regard relatively few reasons as important to stay alive are more prone to exhibit parasuicidal acts than those who consider multiple reasons as important incentives to value life. The Reasons for Living Inventory (RFL), a 48-item self-report questionnaire, has been developed to measure different reasons to stay alive such as ‘survival and coping beliefs’, ‘fear of suicide’, and ‘moral objections’ (Linehan et al., 1983). Several investigators reported good to excellent psychometric properties for the RFL (Linehan, 1985; Osman et al., 1993).

Studies have consistently reported that the RFL, particularly the Survival and Coping Beliefs (SCB) subscale, predicts parasuicide. This scale includes items such as ‘I have the courage to face life’, ‘Life is all we have and better than nothing’, ‘I am too stable to kill myself’, and ‘I believe I can find other solutions to my problems’. Several studies have found that SCB differentiates suicidal from non-suicidal individuals, both in psychiatric (Linehan, 1985; Cole, 1989; Strosahl et al., 1992) and non-psychiatric populations (Linehan, 1985; Cole, 1989; Connell & Meyer, 1991; Osman et al., 1993; Range & Penton, 1994; Ellis & Jones, 1996). In addition, SCB has been found a strong predictor of self-damaging and suicidal behaviours in borderline patients (Linehan et al., 1983; Connell & Meyer, 1991; Osman et al., 1993; Range & Penton, 1994).

An important question is whether the concept of SCB represents a new construct or, alternatively, is captured by already existing constructs. It has been argued that SCB is closely associated with and/or similar to 1) ‘the value put to life’, 2) ‘self-efficacy’ and 3) ‘optimism’ respectively (Linehan et al., 1983; Linehan, 1985). Range and Antonelli (1990) compared the RFL with five commonly used instruments associated with suicide in a sample of undergraduates. Their results revealed that, together with measures of hopelessness, depression and negative self-evaluation, SCB loaded strongly negative on a factor labelled ‘self-doubt’. Furthermore, a substantial number of items of the SCB subscale seem to reflect the coping strategy ‘reassuring thoughts’ (e.g., ‘No matter how badly I feel, I know that it will not last’). Thus, some evidence indicates that SCB subsumes several existing constructs. Each of these other constructs have also been found to be predictive of self-damaging and suicidal behaviours, i.e. maladaptive
coping strategies (Linehan et al., 1987; Schotte & Clum, 1987; Vitaliano et al., 1990; Curry et al., 1992; Kruegelbach et al., 1993; Botsis et al., 1994, Kehrer & Linehan, 1996), hopelessness (Beck et al., 1990; Connell & Meyer, 1991; Ashton et al., 1994) and depression or depressive cognitions (Connell & Meyer, 1991; Dulit et al., 1994; Soloff et al., 1994; Ashton et al., 1994).

The primary aim of the current study is to examine the predictive validity of reasons for living in 38 female patients with BPD. The secondary aim is to investigate the extent to which the reasons for living that predict self-damaging and suicidal behaviours are associated with coping strategies and depressive PD. Finally, we will examine the unique predictive validity of the RFL in a multivariate predictor model. It is hypothesized that (1) SCB is the only RFL subscale that predicts self-damaging and suicidal behaviours, (2) a large proportion of SCB scale variance can be explained in terms of maladaptive coping strategies and depressive personality traits, and (3) the SCB scale does not have unique and/or additional predictive power over measures of maladaptive coping strategies and depressive PD.

Method

Participants
Participants included 38 females who were part of a sample of 58 clinical referrals participating in a randomised clinical trial of Dialectical Behavior Therapy (DBT; Linehan, 1993) conducted in Amsterdam. Inclusion criteria for this trial were: (1) DSM-IV diagnosis of BPD; (2) currently in outpatient psychiatric or substance abuse treatment; (3) age between 18 and 70; and (4) residence within a 25-mile circle around Amsterdam. Exclusion criteria were: (1) DSM-IV diagnoses of bipolar or (chronic) psychotic disorder; (2) insufficient command of the Dutch language; (3) severe cognitive impairments. Of the 58 participants, 27 were assigned to DBT and 31 were assigned to a treatment-as-usual condition or, in other words, ongoing treatment provided by the referring therapist. Complete follow-up assessments at 3 and 6 months were available in 38 (66%) of the 58 participants in the trial. The other participants were excluded from this study.

Instruments
Reasons for living, coping strategies, and depressive PD were measured at baseline. Self-damaging and suicidal behaviours in a six-month period following baseline were measured at 3 and 6-month follow-up. One Ph.D.-level and two master's level clinical psychologists conducted all assessments. They were experienced diagnosticians who
received additional specific training in the administration of the semi-structured interviews mentioned below.

Reasons for living were measured using the Reasons for Living Inventory (RFL; Linehan et al., 1983; Dutch translation by L.M.C.B.). The RFL has six subscales: Survival and Coping Beliefs (SCB), Responsibility to Family (RF), Child Related Concerns (CRC), Fear of Social Disapproval (FSD), Fear of Suicide (FS) and Moral Objections (MO). Items are rated on a 6-point Likert scale. Ratings of 1 ('extremely unimportant') to 3 ('somewhat unimportant') reflect various degrees of unimportance, whereas ratings of 4 ('somewhat important') to 6 ('extremely important') reflect various degrees of importance. To evaluate the similarity of the translated and the original version of the RFL, we conducted exploratory and confirmatory factor analyses. Exploratory factor analysis revealed that the factor structure of the translated version (explaining 65% of the variance) was identical to that of the original version, except for the subscales 'Child Related Concerns' and 'Responsibility to Family' that appeared to load on one single factor. Confirmatory factor analysis explained a highly similar proportion of the variance (62%), providing further evidence that both versions have similar factor structures. The Dutch translation showed excellent internal consistencies for its subscales, with Cronbach's alphas varying from .75 (FS) to .96 (SCB).

Coping strategies were measured using the Utrechtse Coping Lijst (UCL; Schreurs et al., 1988), a 47-item Dutch questionnaire based upon Westbrook's (1979) classification of coping strategies. The UCL consists of seven subscales (e.g., 'reassuring thoughts' and 'active coping') and has good reliability and validity.

Depressive PD was measured by the Structured Clinical Interview for DSM-IV personality disorders (SCID-I; First et al., 1994). The internal consistency of the seven diagnostic criteria for depressive PD was good (Cronbach’s alpha .71).

Self-damaging impulsive acts and suicidal behaviours were measured using the impulsivity and parasuicide sections of the Borderline Personality Disorder Severity Index (BPDSI; Arntz et al., 2003). The BPDSI is a semi-structured interview assessing the frequency of borderline symptoms in the previous 3-month period. The instrument is an adaptation of an interview developed by Weaver and Clum (1993), and has proven to be highly reliable and internally consistent, and to have excellent concurrent validity (Arntz et al., 2003). The parasuicide section includes 9 items reflecting distinct self-damaging and suicidal behaviours (e.g., cutting, burning, suicide threats, preparations to suicide attempts, and actual suicide attempts). The BPDSI was administered at 3 and 6-month follow-up.
Statistical procedures
The scores on the BPDSI parasuicide section had a highly skewed distribution. We therefore decided to dichotomize the sample into those without any self-damaging or suicidal behaviours in the 6-month follow-up period (n=12) versus those who exhibited one or more of those behaviours in the same period (n=26). Predictor scales were also dichotomized, thereby allowing the computation of odds ratios (OR's), to maximize the clinical relevance and comprehensibility of the findings. Dichotomization of the RFL scales was based upon the item scoring labels that reflected either the importance (scores 1-3) or the unimportance (scores 4-6) of particular reasons for living (see also above). More specifically, we divided the sample into those with a mean item score equal to or higher than 3.5 and those with a mean item score lower than 3.5. With respect to the UCL, dichotomization with applied according to norm scores from the normal population (Schreur et al., 1988). For each of the UCL subscales, the sample was divided into those with a score equal to or higher than the average value in the normal population and those with a score below that average. With respect to depressive PD, dichotomization was according to the DSM-IV threshold for diagnosis, i.e. with 5 or more criteria indicating the presence and 4 or less criteria indicating the absence of depressive PD. Odds ratios and 95% confidence intervals for the predictor variables (reasons for living, coping strategies, and depressive PD) were computed using logistic regression analysis. Data analysis was conducted with SPSS 8.0 for Windows.

Results

Participant characteristics
The sample consisted of 38 female patients with BPD. Most patients (58%) had never been married, 18% were divorced, and 24% were married. The average years of schooling was 13.1±3.6. The majority of patients was either unemployed (26%) or received a disability pension (61%). The mean number of BPD criteria met was 7.6 ±1.1, with 84% of the sample meeting the criterion 'recurrent suicidal behaviour'. The mean age was 36.5±6.7 years (range 20-49).
Occurrence of parasuicidal behaviour

<table>
<thead>
<tr>
<th>RFL subscale</th>
<th>Odds ratio</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survival and coping beliefs</td>
<td>6.8</td>
<td>1.2-37.5*</td>
</tr>
<tr>
<td>Child-related concerns</td>
<td>1.0</td>
<td>0.3-3.9</td>
</tr>
<tr>
<td>Responsibility to family</td>
<td>2.6</td>
<td>0.6-11.7</td>
</tr>
<tr>
<td>Fear of suicide</td>
<td>1.2</td>
<td>0.3-4.8</td>
</tr>
<tr>
<td>Fear of social disapproval</td>
<td>2.6</td>
<td>0.5-14.8</td>
</tr>
<tr>
<td>Moral Objections</td>
<td>1.2</td>
<td>0.2-7.2</td>
</tr>
</tbody>
</table>

Note. *p < .05 **p < .01

Table 1 Odds ratios and 95% confidence intervals for the ability of the RFL subscales to predict the occurrence of self-damaging and suicidal behaviour.

Predictive validity of reasons for Living

Table 1 shows the odds ratios and 95% confidence intervals for the power of RFL subscales to predict self-damaging and suicidal behaviours. Consistent with our hypothesis, SCB was the only RFL subscale with predictive validity. High scorers were 6.8 times more likely (CI 1.2-37.5) to present any self-damaging and/or suicidal behaviour in the 6-month follow-up period than were low scorers.

Association of SCB with Coping and Depressive personality

Table 2 shows Pearson correlation between SCB on the one hand and coping strategies and the number of depressive personality traits on the other hand. The highest correlation were with reassuring thoughts (.65), active coping (.46), palliative reaction pattern (.34) and depressive personality traits (.33). An additional analysis (not reported on in the table) revealed that the total amount of SCB scale variance explained by these other variables was 52%.
<table>
<thead>
<tr>
<th>SCB Subscale</th>
<th>Pearson Correlation Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>active coping</td>
<td>-.46**</td>
</tr>
<tr>
<td>reassuring thoughts</td>
<td>.65**</td>
</tr>
<tr>
<td>palliative reaction pattern</td>
<td>.34*</td>
</tr>
<tr>
<td>avoidance</td>
<td>-.21</td>
</tr>
<tr>
<td>passive reaction pattern</td>
<td>.15</td>
</tr>
<tr>
<td>seeking social support</td>
<td>.10</td>
</tr>
<tr>
<td>expression of emotions</td>
<td>.22</td>
</tr>
</tbody>
</table>

**SCID-II**
Number of depressive personality traits  | -.33*  

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

Table 2  Pearson correlation between Survival and Coping Beliefs (SCB) on the one hand and coping strategies and the number of depressive personality traits on the other hand.

**Unique Predictive Validity of SCB**
Table 3 shows both the univariate and the multivariate logistic regression models for SCB, reassuring thoughts, active coping, palliative reaction pattern, and depressive personality. From the univariate models, it appears that – in addition to SCB – reassuring thoughts and depressive PD also predict self-damaging and suicidal behaviours.

Participants who score low on reassuring thoughts were 11.0 times more likely (CI 2.2-54.7) to exhibit parasuicidal behaviour, than were their high-scoring counterparts.

Participants with comorbid depressive PD were 6.7 times more likely (CI 1.5-30.1) to exhibit those behaviours than those without such a diagnosis. In the multivariate logistic regression models, reassuring thoughts appeared to be the only predictor with unique predictive power, whereas the predictive power of the other variables diminished to a non-significant level.
Occurrence of parasuicidal behaviour

<table>
<thead>
<tr>
<th>Univariate predictor models</th>
<th>Odds ratio</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Survival and coping beliefs</td>
<td>6.8</td>
<td>1.2 - 37.5*</td>
</tr>
<tr>
<td>2. Reassuring thoughts</td>
<td>11.0</td>
<td>2.2 - 54.7**</td>
</tr>
<tr>
<td>3. Active coping</td>
<td>2.1</td>
<td>0.5 - 9.9</td>
</tr>
<tr>
<td>4. Palliative reaction pattern</td>
<td>3.1</td>
<td>0.6 - 17.3</td>
</tr>
<tr>
<td>5. Depressive PD</td>
<td>6.7</td>
<td>1.5 - 30.1**</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Multivariate predictor models</th>
<th>Odds ratio</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Survival and coping beliefs</td>
<td>2.1</td>
<td>0.3 - 18.5</td>
</tr>
<tr>
<td>Reassuring thoughts</td>
<td>7.0</td>
<td>1.0 - 50.6</td>
</tr>
<tr>
<td>7. Survival and coping beliefs</td>
<td>3.9</td>
<td>0.6 - 24.8</td>
</tr>
<tr>
<td>Depressive PD</td>
<td>4.0</td>
<td>0.8 - 20.6</td>
</tr>
<tr>
<td>8. Survival and coping beliefs</td>
<td>1.0</td>
<td>0.1 - 11.2</td>
</tr>
<tr>
<td>Reassuring thoughts</td>
<td>8.9</td>
<td>1.0 - 77.1*</td>
</tr>
<tr>
<td>Depressive PD</td>
<td>5.1</td>
<td>0.8 - 31.6</td>
</tr>
</tbody>
</table>

Note. *p < .05 **p < .01

Table 3 Univariate and multivariate predictor models: odds ratios and 95% confidence intervals.

Discussion

This study revealed that scB is the only subscale of the RFL that predicts self-damaging and suicidal behaviours during a six-month follow-up period. This finding is consistent with previous studies (Linehan et al., 1983, 1985; Cole et al., 1989; Connell & Meyer, 1991; Strosahl et al., 1992; Osman et al., 1993; Range & Penton, 1994; Ellis & Jones, 1996). Furthermore, a substantial proportion of scB scale variances appeared to be accounted for by depressive personality traits and several coping strategies, i.e. reassuring thoughts, palliative reaction pattern and active coping. Our findings suggest that scB partly reflects maladaptive coping strategies and depressive personality traits, including low self esteem, hopelessness and pessimism. This is also consistent with findings of other studies (Linehan et al., 1983, 1985). Finally, we found that reassuring thoughts outperformed scB as a predictor of self-damaging and suicidal behaviours. This suggests that it is primarily this component of scB that is predictive of parasuicide. However, it should be mentioned that the sample size in this study is rather small and that our findings therefore need replication.

The construct of reasons for living has been introduced to examine the mechanisms underlying the treatment process and outcome in chronically suicidal individuals.
and/or individuals with borderline personality disorder. It can be hypothesized that the effect of cognitive behaviour therapies, in particular Dialectical Behavior Therapy (Linehan et al., 1993), is partly mediated by an increase of reasons for living. Our findings, however, tentatively suggest that only one subtype of reasons for living, i.e. SCB, predicts parasuicide and that its predictive value is probably mostly accounted for by items measuring the presence of adequate coping strategies such as reassuring or self-soothing thoughts. We have also observed that the administration of the 48-item RFL, that basically involves rating reasons why one should not commit suicide, is a stressful experience to most clients.

In conclusion, the results of the current study tentatively suggests that determining the presence of reassuring thoughts by administration of a coping questionnaire is more valuable than the relatively time-consuming and stressful administration of the RFL. Future research should address the question whether the favourable impact of cognitive behaviour therapies on the severity and frequency of parasuicidal behaviours in borderline patients is indeed mediated by strengthening the ability to cope with life events through reassuring or self-soothing thoughts. Such a finding could have important implications for the focus of therapeutic strategies toward this group of patients.
References


