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Recent life events and subjective well-being of personality disordered forensic outpatients

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ABSTRACT

Purpose: The majority of patients treated at forensic psychiatric outpatient facilities suffer from personality disorders, especially Cluster B disorders. Life events have been shown to influence subjective well-being, severity of psychopathology and delinquent behaviour of patients with different personality disorders. However, the influence of life events on subjective well-being of patients suffering from Cluster B personality disorders has rarely been studied. Following General Strain Theory and the dynamic equilibrium model, we hypothesised that negative life events would negatively influence subjective well-being, and that subjective well-being would change when an instability of life events occurs.
Methods: Fifty-six adult male forensic psychiatric outpatients were interviewed on their subjective well-being and filled out a self-report life event questionnaire, at three time-points, with an interval of three months. Life events were categorized along two dimensions: positive / negative and controllable / uncontrollable.
Results: Patients had a stable pattern of positive, negative controllable and uncontrollable life events. Positive controllable events did not have a stable pattern. Results indicated that only negative controllable events correlated negatively with subjective well-being. Furthermore, positive and positive controllable events correlated with a positive *change* in subjective well-being and uncontrollable events correlated negatively with this change.
Conclusions: Forensic psychiatric outpatients seem to experience a relatively stable 'load' of stressful life events, that does not influence change in subjective well-being. We did not find unequivocal support for General Strain Theory. In line with the dynamic equilibrium model, forensic outpatients seemed less used to positive controllable life events, which influenced positive change in subjective well-being. In outpatient forensic treatment, attempts to limit negative life events together with enhancing behaviour which results in positive events should be targeted. This might result in better lives for patients and in reduced criminal behaviour.

1. Introduction

It is well known that stressful life events influence the subjective well-being of people in general (Lu, 1999; Lucas, Clark, Georgellis, & Diener, 2004; Lucas, Georgellis, Clark, & Diener, 2003; Suh, Diener, & Fujita, 1996; Zautra & Majo, 1981), and of patients suffering from mental disorders such as schizophrenia (Chan, Ungvari, Shek, & Leung, 2003), bipolar disorder (Chand, Mattoo, & Sharan, 2004) and depression (Roy, 1996), in particular. Besides subjective well-being, life events (LE) also influence the severity of psychopathology. For instance, positive and negative LE correlated with depression in college students (Dixon & Reid, 2000) and in patients with personality disorders (PD; Perry, Lavori, Pagano, Hoke, & O'Connell, 1992), and negative LE are related to an increased symptom count in Cluster B PD patients (Taylor, 2005).

The majority of individuals treated at forensic outpatient facilities in The Netherlands suffer from a personality disorder, especially Cluster B PD, that is, antisocial, narcissistic, borderline and histrionic PD (American Psychiatric Association, 2000; Hildebrand & de Ruiter, 2004). In this field of psychiatry, preventing criminal recidivism is the main treatment goal, and several studies have indicated that life events in general (Steadman & Ribner, 1982; Vaux & Ruggiero, 1983) and specific life events in particular (such as witnessing violence, receiving traumatic news, marriage; Eitle & Turner, 2002; Ouimet & Le

Abbreviations: LE, life events; PD, personality disorder; SWB, subjective well-being; LQoLP, Lancashire Quality of Life Profile; QREE, Questionnaire of Recently Experienced Events; P/N, positive / negative (life events); C/U, controllable / uncontrollable (life events); LCU, Life Change Units.

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Blanc, 1996) influence delinquent behaviour and criminal recidivism. In this study, we examined life events and subjective well-being in a group of 56 male forensic psychiatric outpatients.

1.1. Life events in patients with a personality disorder

Previous research has demonstrated that PD patients experienced more LE than patients without PD (Heikkinen et al., 1997; Leaf, Alington, Mass, DiGiuseppe, & Ellis, 1991; Samuels, Nestadt, Romanoski, Folstein, & McHugh, 1994). In particular, PD patients encountered more positive LE (Leaf et al., 1991), and more dependent LE (i.e., controllable by the individual; Heikkinen et al., 1997). In studies relating LE to categories of PD, patients with a Borderline PD seemed to experience different LE compared to patients with other PDs (Jovev & Jackson, 2006; Leaf et al., 1991; Pagano et al., 2004). Borderline patients reported more LE in total (Jovev & Jackson, 2006), more negative LE, fewer positive LE (Pagano et al., 2004) and more health-related and social stressors (Jovev & Jackson, 2006; Pagano et al., 2004) than patients with other PDs. Furthermore, Jovev and Jackson (2006) found that patients with Borderline PD experienced more LE in the criminal and financial domains than patients with an Axis 1 disorder or with another PD.

Heikkinen et al. (1997) compared patients with Cluster B and Cluster C (avoidant, dependent, obsessive–compulsive) PDs, and reported that Cluster B patients displayed more negative financial life events. The LE mentioned by all PD patients were mainly difficulties in interpersonal relationships (such as involvement in fights, conflict with neighbours, family arguments, and extramarital affairs) and with maladaptive behaviours (such as alcohol- and drug-related problems, criminal activities, divorce; Samuels et al., 1994).

Several studies targeted the relationship between LE and global subjective well-being of PD patients. Pagano et al. (2004) studied the influence of LE on psychosocial functioning and overall life satisfaction in patients who suffered from one of four categories of PD, namely Schizotypal (cluster A), Borderline (Cluster B), and Avoidant and Obsessive–Compulsive (Cluster C). They concluded that PD diagnosis had only a small effect on the relationship between recent LE and psychosocial functioning. However, another study (Jovev & Jackson, 2006) showed that total LE did not influence global subjective well-being of patients with a Borderline PD, whereas the influence of LE in patients with an Axis 1 disorder or with another PD (mainly Avoidant and Obsessive–Compulsive PD) was negative.

Forensic psychiatric patients suffer mainly from a Cluster B personality disorder, especially Antisocial, Narcissistic and Borderline (Hildebrand & de Ruiter, 2004). Studies on the relationship between life events and subjective well-being have rarely focussed on Cluster B disorders or traits, with the exception of Borderline PD.

1.2. Possible mechanisms relating life events to subjective well-being

For forensic patients, negative life events could serve as important risk factors for criminal offending according to general theories of crime such as General Strain Theory (Agnew, 1992, 1997). Following this theory, strain may lead to aggressive or criminal behaviour as a consequence of an increase in negative affect. Several kinds of negative affect have been identified, such as disappointment, depression, despair, fear, and anger. Anger is the most important type of negative affect in relation to aggression and delinquent behaviour. Agnew (1992) identifies three sources of strain, also labelled negative or adverse relations: failure to achieve positively valued goals; removal of positively valued stimuli (actual or anticipated); and presentation of negative stimuli. The latter two sources of strain involve life events, but the difference between the two is small: the removal of a positive stimulus, generally, results in the presentation of a negative stimulus. Strain has different dimensions: magnitude, recency, duration, and clustering of stressful events. Besides strain and the appraisal of strain as expressed in negative affect, General Strain Theory focuses on coping strategies which the individual employs in dealing with strain. Cognitive and contextual factors codetermine whether the chosen strategy is criminal behaviour or not. In forensic psychiatry, the prevention of strain and learning to employ different coping strategies in handling strain, are important treatment goals (Agnew, 1997).

Following General Strain Theory, LE, especially negative events, can be a source of strain and therefore negatively influence subjective well-being, because of the strong relationship between negative affect and subjective well-being (Fakhoury & Priebe, 2002). The relationship between life events and subjective well-being is studied here.

In clinical forensic psychiatry, General Strain Theory has been used to study recidivism during leave by forensic inpatients (Hilterman, 2000). He confirmed several hypotheses derived from this theory, and deemed the model useful in Dutch forensic psychiatry. In other studies aiming at different samples, assumptions from General Strain Theory have been tested. In a sample of persons selected from family practices, positive life events did not correlate with strain, but negative life events, that is, undesirable, uncontrollable, and unanticipated events, did (Streiner, Norman, McFarlane, & Roy, 1981). For (ex-) psychiatric patients, high life stress was associated with more frequent verbal, minor physical, major physical, and weapon disputes, during the same year the life events occurred (Steadman & Ribner, 1982). In this group, the total number of life events, and the undesirable and controllable events predicted the total number of disputes.

Whereas the General Strain Theory postulates that negative LE have a negative influence on subjective well-being (SWB), the dynamic equilibrium model (Headey & Wearing, 1989) of SWB is built around the assumption that people have a normal pattern of LE and a normal level of SWB, and both are predictable on the basis of stable personality characteristics. Only deviations from the normal pattern of LE change the normal level of SWB. According to the dynamic equilibrium model, the same life events keep happening to the same persons. Some are exogenous, and some are internally driven (endogenous), resulting from stable characteristics of the person.

2. Aims of the study

Assumptions based on both the General Strain Theory and the dynamic equilibrium model were studied. Firstly, stability of LE categories was examined, since change in LE should lead to change in SWB. Secondly, we studied the relationship of negative (categories of) LE with SWB, and of the total number of LE with SWB, since the General Strain Theory assumes a negative relation between strain or negative life events and SWB. Thirdly, we studied the influence of LE on change in SWB. Following the General Strain Theory, negative LE would result in a negative change in SWB. From the dynamic equilibrium model, on the other hand, it follows that LE would only lead to a change in SWB if the category of LE was unstable, that is, has changed. We explored the role of both negative and other categories of LE, and used a median split in (categories of) LE (for use of median split in LE research see e.g., Burns, Carroll, Ring, Harrison, & Drayson, 2002; Klein & Boals, 2001; Steadman & Ribner, 1982; Zalsman et al., 2006; and for discussion on median split, see Maxwell & Delaney, 1993) by which our sample is divided into patients with a low level of LE and patients with a high level of LE, per category of LE. Furthermore, we examined whether severity of psychopathology (operationalised as having either a PD or PD traits) and whether type of disorder (having a Borderline PD or BPD traits or not) had an effect on the relationship between LE and change in global SWB.

3. Methods

3.1. Procedure

The inclusion criteria were: male, 18 years or older, IQ > 70, predominant PD or PD traits. Excluded were patients predominantly

suffering from schizophrenia or related disorders, (severe) anxiety disorder or mood disorder. Psychiatric classifications were made by clinicians, resulting in Axis I and/or II diagnoses and an indication whether the primary diagnosis related to forensic treatment was the Axis I or the Axis II disorder.

Participants were randomly sampled from four forensic outpatient facilities in The Netherlands. In these facilities, both patients with and without a judicial measure are treated. All patients have displayed delinquent behaviour or are at risk for (relapse into) delinquent behaviour. In total, 214 patients were contacted by their therapist or the first author. They received a leaflet containing basic information about the present study.

We used a longitudinal design with three assessment points: baseline (T_0), three months (T_1) and six months (T_2).

3.2. Participants

One hundred thirty-five patients agreed to participate and gave written informed consent. Seventy-nine patients declined participation. Of the 135 patients participating at T_0, 65 (48.1%) filled out the self-report questionnaire on life events at T_1. Of these 65 responders, 9 did not participate in the second round of interviews at T_2. Therefore, 56 of the 135 patients (41.5%) were interviewed at T_0 and T_2 and returned the self-report questionnaire on life events at T_1 and T_2. The 56 patients who participated in all three data collection rounds did not differ from the 79 drop-outs concerning criminal background, global subjective well-being at T_0, score on categories of LE at T_0, and psychiatric history.

3.3. Measures

Subjective Well-Being: to measure global SWB, we used Cantril's ladder which is part of the extended Dutch version of the Lancashire Quality of Life Profile (LQoLP), a patient interview (van Nieuwenhuizen, Schene, & Koeter, 1998). In Cantril's ladder, a patient is asked to rate his life on a continuum ranging from *life at its worst (0)* to *life at its best (100)* by indicating it on a 100 mm long ladder. This rating was made at T_0 and T_2.

Socio-demographic and clinical data: the LQoLP (van Nieuwenhuizen et al., 1998) also gathers information on life circumstances and demographic characteristics. A separate form containing questions regarding psychiatric and criminal background and additional demographic characteristics was designed by the first author. The form was filled out using file information and information collected during a patient interview at T_0.

Life events: to assess life events, we used the Questionnaire of Recently Experienced Events (QREE) (van der Willige, Schreurs, Tellegen, & Zwart, 1985), a self-report measure. It is based on the Recent Life Change Questionnaire (RLCQ) of Rahe (1975) and consists of 59 LE divided into 115 items. At the end of the questionnaire, a subject can name up to two events not mentioned in the list. Patients were asked to indicate which events had occurred during the three months prior to the administration of the QREE. This was done at T_0, T_1 and T_2. At T_1, patients were either given an envelope containing the LE questionnaire and a postage paid envelope by their therapist or it was sent to their home address if a patient either no longer had contact with the institute or if the frequency of therapy was low. At T_0 and T_2, patients filled out the LE questionnaire after the LQoLP interview and handed it to the interviewer.

Two dimensions of LE were distinguished: positive–negative LE and controllable–uncontrollable LE. Along the positive–negative dimension, events are divided according to their perceived affective connotation. With regard to the controllable–uncontrollable dimension, controllable means a person has influence over the (occurrence) of the event, and uncontrollable means the person has no influence; the terms dependent or independent are also used to denote this difference (e.g., Heikkinen et al., 1997). Distinction of these two dimensions resulted in a total of eight (sub)categories of LE, which were used in this study. These distinctions have proven useful in previous research because different categories of events do not occur to the same extent in different populations (Leaf et al., 1991), and have different relationships with outcome measures such as subjective well-being (Pagano et al., 2004; Zautra & Reich, 1980) and delinquent behaviour (Steadman & Ribner, 1982; Vaux & Ruggiero, 1983).

To categorise the events in the QREE along the two dimensions, the list of 115 LE was presented to eleven independent individuals (unaware of the purpose of this study), with the request to rate each LE on two dimensions: positive–negative (P/N) and controllable–uncontrollable (C/U). For both dimensions, there was also a 'neutral' category. The raters were employees of one of the participating facilities. For 84 LE, the rating resulted in a clear consensus on the two dimensions. For 31 LE, the outcome was equivocal (13 on the P/N dimension and 18 on the C/U dimension). These LE were reviewed by the first and second authors, who arrived at a consensus agreement. Of the possible LE, 27 were labelled positive, and 49 negative. Fifty-four events were considered controllable and 48 uncontrollable. Of the positive events, 22 were considered controllable and four were rated as uncontrollable LE. Thirty of the negative events were labelled uncontrollable, and fifteen negative events were rated as controllable. Besides categories of LE, the weighing procedure (Life Change Units, LCU) used by Miller and Rahe (1997) was employed. In the RLCQ, a score is given to each LE depending on the estimated impact of the event, resulting in a LCU score. In accordance with Miller and Rahe's (1997, p. 290) advice, a cut-off score of 300 was used to differentiate high LE stress scorers (>300 LCU) and low LE stress scorers (≤ 300 LCU).

A one-week test–retest reliability study of the QREE among 27 adult male forensic psychiatric outpatients was conducted. The test–retest reliability was significant for all types of LE and ranged from .46 for negative uncontrollable LE to .68 for positive uncontrollable LE (test–retest correlation for LE total = .62).

LE were counted for the entire T_0–T_2 period of six months. To study the stability of LE, the LE during the T_0–T_1 period and the T_1–T_2 period were compared.

3.4. Data analysis

Changes in scores on (categories of) LE between two measurements and changes in SWB were analyzed using paired sample *t*-tests. Stability of (categories of) LE was studied using Pearson's product moment correlations, as was the relationship between (categories of) LE and SWB. The differences in SWB between patients with a low level of LE and patients with a high level of LE per category were examined using Student's *t*-tests. Repeated Measures ANOVAs were performed to explore the relationship between different categories of LE and change in global subjective well-being, using dichotomized categories of life events (median split). Partial eta^2 values for within-subject contrasts are shown; an effect size of .01 was considered small, .06 medium, and .14 large (Cohen, 1988). The influence of a diagnosis of any PD and of Borderline PD or traits was examined using a repeated measures ANOVA between the categories of LE and change on Cantril's ladder, with any PD and Borderline PD and traits as covariates. The two-sided significance levels were set at $\alpha \leq .05$.

4. Results

4.1. Patient characteristics

Patients ($N = 56$) were adult male forensic outpatients with an average age of 38 years (SD = 8.8). A third of them lived alone, while 12.5% still lived with their parents. Almost half of the patients had

children (48.2%). Most patients had daily or weekly contact with a family member (87.5%). Only one third had paid employment. Patients often had financial debts (excluding mortgages; 58.9%), this was 21,000 euros on average. More than 50% of the patients lived on social welfare.

Twenty-nine percent of the patients did not meet the required number of traits of one or more PDs to reach the clinical threshold for a PD diagnosis according to DSM-IV-TR, but had one or more PD traits. Most patients were classified as having a PD not otherwise specified (35.7%), and 21.4% had a Cluster B PD (Antisocial, Borderline or Narcissistic PD). None of the patients was diagnosed with a Cluster A PD, and 10.7% had a Cluster C PD. Less than a third of the patients had never been treated in a mental health facility before; 19.6% had been previously hospitalised in a psychiatric institution.

4.2. Life events over the six month period (T_0–T_2)

The 56 patients reported 715 life events during the six months between T_0 and T_2. On average, patients mentioned 12.8 life events (SD = 6.67), with a minimum of 0 and a maximum of 31 events. No outliers were found (mean ± 3*SD). Using the LCU, 48.1% of the patients displayed a low level of stressful life events. Patients mentioned about the same number of LE for the T_0–T_1 period and the T_1–T_2 period.

Nine patients (16.1%) did not report any positive event, and 12.5% did not mention any negative event during the six months. Only one patient did not register any controllable LE, whereas 10.7% of the patients did not mention any uncontrollable LE. Four positive uncontrollable events were included per three month period; 14.3% of the patients named such an event. A majority of the patients (82.1%) listed one or more positive controllable LE and just over half mentioned one or more negative controllable LE (55.4%). Twenty-one percent of the patients did not experience any negative uncontrollable LE during the six months.

Besides a similar number of LE in general, patients also mentioned similar numbers of LE per category during the T_0–T_1 period and the T_1–T_2 period. Furthermore, the number of LE mentioned by the patients at both assessment points correlated significantly for five categories of LE (between $r = .28$ for positive LE and $r = .39$ for negative LE), but not for LCU scores, nor for positive or negative uncontrollable LE, positive controllable LE or controllable LE (see Table 1).

4.3. Change in global subjective well-being

On average, patients were more satisfied at T_2 than at T_0, as measured with Cantril's ladder ($M_{T0} = 46.9$; $M_{T2} = 59.0$; $t = -4.24$; $df = 55$; $p = .000$). The average change in global SWB was 12.1 mm (SD = 21.3). The differences ranged from −51 mm to +83 mm. Both extreme scores were outliers and were not used in subsequent analyses.

4.4. Relationship of categories of life events with change in global subjective well-being

No significant differences on global SWB at T_0 or at T_2 were found between patients with a low level of LE and patients with a high level of LE of either category (P/N or C/U) during the six months between T_0 and T_2 nor between patients with a high stressful LE score (in terms of LCU) and patients with a low stressful LE score ($n = 54$). Only negative controllable LE during the T_0–T_2 period correlated significantly with Cantril's ladder at T_2 ($r = -.27$; $p = .045$; Table 1).

Positive LE, positive controllable LE and uncontrollable LE were related to a significant difference in change on SWB between the group with a low level of LE and the group with a high level of LE on each of these three categories ($F_{(PLE)}(1,52) = 5.161$; $p = .027$; $F_{(PCLE)}(1,52) = 6.905$; $p = .011$; $F_{(ULE)}(1,52) = 4.655$; $p = .036$; Table 2). Both positive and positive controllable LE were related to a larger increase in SWB. A low level of uncontrollable LE correlated with a larger increase in SWB than a high level of uncontrollable LE. All three differences had medium effect sizes; partial eta^2 was .082, .090, and .117 for uncontrollable, positive and positive controllable LE, respectively. The significant relationships between positive and positive controllable LE and the change in SWB did not change when controlling for any PD or Borderline PD or traits: the values of eta^2 remained approximately the same (Table 2). The relationship between uncontrollable LE and change in SWB increased when controlled for Borderline traits; the test of the within-subjects contrast of the covariate was, however, not significant ($p = .08$).

5. Discussion

Forensic psychiatric outpatients with a personality disorder seem to have a stable, chronic pattern of LE in general, of positive and negative LE, of negative controllable LE and of uncontrollable LE. The patterns for the other (sub-) categories were not stable. Although it could not be empirically tested, the current forensic psychiatric patient sample seems to encounter more LE in total than the PD patients examined by Pagano and colleagues (2004); the last group reported on average nine LE during 3 years, whereas our patients reported on average thirteen LE during six months. Our patients more often reported negative than positive life events. However, the difference was not as large as reported in another study (Pagano et al., 2004), in which a ratio of 2.3 negative to 1 positive LE was reported, whereas we found a ratio of 1.4 to 1. Most patients reported more controllable events whereas fewer patients stated to have experienced uncontrollable events.

Table 1
Self-reported life events (LE) by forensic psychiatric outpatients during six months, per LE category ($N = 56$).

Category of life events	% no such event	Mean T_1 (SD)	Mean T_2 (SD)	Median	Correlation LE T_1–LE T_2	Correlation LE–Cantril's ladder T_2
Total life events	1.8	6.9 (4.35)	5.9 (3.64)	11.5	.39**	−.20
LCU total score	1.8	183 (122)	150 (112)	181	.20	−.11
Positive LE	16.1	1.2 (1.21)	1.3 (1.19)	2.0	.28*	.14
Negative LE	12.5	2.0 (1.73)	1.5 (1.53)	3.0	.39**	−.19
Controllable LE	1.8	3.7 (2.61)	3.1 (2.35)	6.0	.23	−.06
Uncontrollable LE	10.7	2.1 (1.60)	1.9 (1.75)	4.0	.31*	−.23
Positive controllable LE	17.9	1.1 (1.05)	1.2 (1.16)	2.0	.26	.20
Positive uncontrollable LE	85.7	.1 (.32)	.1 (.38)	.0	.07	−.18
Negative controllable LE	44.6	.6 (.89)	.4 (.66)	1.0	.28*	−.27*
Negative uncontrollable LE	21.4	1.1 (1.04)	1.0 (1.09)	2.0	.15	−.02

Note: Comparing the means of the categories of LE on T_1 with T_2 using paired sample t-test revealed no significant differences. There was a trend ($p = .070$) for negative LE and for the LCU score ($p = .099$). Cantril's ladder = uniscale for measuring subjective well-being.
* $p \leq .05$.
** $p \leq .01$.

Table 2
Changes in subjective well-being after six months by life event category, controlled for severity of personality disorder and for borderline personality disorder characteristics.

Category of events	Low level LE		High level LE		RM ANOVAs	RM ANOVAs	RM ANOVAs
	CL on T_0	CL on T_2	CL on T_0	CL on T_2		Covariate PD	Covariate BPD
					Partial eta^2	Partial eta^2	Partial eta^2
Total life events	47.9[a]	62.6	46.0	54.8	.025	.030	.033
Total stress	47.6[b]	60.1	46.0	57.4	.001	.002	.004
Positive LE	50.2[c]	54.8	45.0	60.6	.090*	.089*	.080*
Negative LE	44.9[d]	60.6	48.0	57.3	.034	.036	.044
Controllable LE	49.7[e]	57.7	44.6	59.4	.039	.035	.033
Uncontrollable LE	42.6[f]	59.8	50.3	57.7	.082*	.081*	.106*
Positive controllable LE	48.5[d]	53.3	45.6	62.4	.117*	.113*	.109*
Positive uncontrollable LE	47.9[g]	60.0	40.3	51.1	.001	.000	.004
Negative controllable LE	52.6[h]	62.9	42.0	55.3	.008	.007	.002
Negative uncontrollable LE	42.4[i]	57.0	49.5	59.7	.016	.019	.021

Note: Low and high level of LE is based on median split. Except for PU LE, all categories of LE are split into <median and≥median. CL = mean Cantril's ladder. RM ANOVAs are Repeated Measure Analysis of Variance, Within-subjects contrasts: Interaction effect: if significant, the change on Cantril's ladder between T_0 and T_2 differs for both groups. PD = Personality disorder; BPD = Borderline PD or Borderline PD traits.

[a] n(below median) = 27, n(above median) = 27.
[b] n(low) = 26, n(high) = 28.
[c] n(low) = 18, n(high) = 36.
[d] n(low) = 22, n(high) = 32.
[e] n(low) = 23, n(high) = 31.
[f] n(low) = 25, n(high) = 29.
[g] n(low) = 46, n(high) = 8.
[h] n(low) = 24, n(high) = 30.
[i] n(low) = 21, n(high) = 33.
* $p \leq .05$.

General Strain Theory (Agnew, 1992) links negative LE with SWB. We found one significant correlation, namely between negative controllable LE and SWB. Despite indications to the contrary from other studies (see e.g., Heikkinen et al., 1997; Rahe, 1975), none of the other categories of LE displayed a relationship with SWB in this sample. A high level of positive controllable LE was related to a larger positive change in SWB in our sample compared to a low level, which was also reported in a group of college students (Zautra & Reich, 1980). A high level of positive LE was also related to a larger positive change in SWB, which was not found in another study (Streiner et al., 1981). A high level of uncontrollable LE was related to a smaller change in SWB, compared to patients with a low level of uncontrollable LE. This was also discovered in a study among the general population (Streiner et al., 1981). These relationships were not modified by suffering from a PD or PD traits nor by borderline PD characteristics.

There are several limitations to the present study. Firstly, the main limitation is that only 56 of the total sample of 135 patients participated in all phases of the study. Although the participating patients hardly differed from drop-outs, biases could have occurred due to the limited response rate. Secondly, we assumed that global subjective well-being can be measured by a single item, in this case Cantril's ladder. Subjective well-being or quality of life has been studied for a long time, but thus far no consensus on their operationalization exists. By using a single measure, we surpassed the possibility that subjective well-being is not a single entity, but has different faces, depending on, for instance, the life-domain studied or the disease specific background of patients. However, Cantril's ladder is positioned at the end of the LQoLP interview, thus, after all life domains have been discussed with the patient. A patient will therefore be likely to take several aspects of his life into account when evaluating his overall quality of life at that moment (see Bouman, van Nieuwenhuizen, Schene, & de Ruiter, 2008), than when it had been asked at the beginning of the interview or outside the interview context.

Several remarks can be made concerning the measurement of LE based on this study. Firstly, the total number of life events, either simply counted or weighed as by Miller and Rahe (1997), has been assumed to negatively influence life satisfaction. This general idea should be subjected to closer scrutiny (see also Streiner et al., 1981). Several categories of life events showed a relationship with positive change in SWB in this study. Thus, total number of LE seems less useful in relation to SWB. It is advisable to differentiate between positive, negative, controllable and uncontrollable LE, and combinations of these categories. Secondly, the number of events differs greatly between LE measures used, for instance, the RLCQ (Rahe, 1975) lists 76 events; the QREE (van der Willige et al., 1985) uses 115 items to measure 59 events; Heikkinen et al. (1997) used 32 questions to ask about life events; and Pagano et al. (2004) used a list containing 82 LE. No golden standard seems to exist in LE research, thus limiting the possibilities of comparative research. Thirdly, the procedures by which LE are categorized on dimensions are often unclear in the research literature. Most authors simply state that the events were grouped (see e.g., Pagano et al., 2004; Taylor, 2005). LE can also be rated by the subject and subsequently categorized in terms of their perceived impact, desirability and controllability (Jovev & Jackson, 2006; Streiner et al., 1981). Self-rated pleasantness and unpleasantness of an event can also replace more objective categorization of LE into positive and negative LE. These differences in the operationalization of categories of life events may partly account for differences in findings between studies.

Although negative LE have previously been found to correlate negatively with the level of subsequent SWB, negative LE had no influence on the change in SWB of patients with PD in this study. Using a dynamic equilibrium model, Headey and Wearing (1989) hypothesised that each person has a normal pattern of LE and a normal level of SWB, both predictable on the basis of stable personality characteristics. Only deviations from the normal pattern of LE lead to changes in the normal level of SWB (see also Suh et al., 1996). In the current study, no correlations were found between the number of (positive) controllable LE at both measurements, between the number of positive uncontrollable LE at both measurements, and also not between the number of negative uncontrollable LE at both measurements.

Although the average number of (positive) controllable LE did not change, the absence of a correlation may indicate that patients with PD do not have a stable pattern of (positive) controllable LE, as opposed to the stable pattern of negative LE, uncontrollable LE and total LE. Patients with PD may be used to negative LE. This may result

in (relative) immunity to the impact of such events on subjective well-being. People tend to adapt to their circumstances, and these patients may have adapted to a life in which negative LE are commonplace. According to Pagano et al. (2004), patients with PD tend to behave in a way in which they are more likely to encounter adverse events. We also found that subjective well-being in this forensic psychiatric sample increased over time. In general, individuals tend to adapt their expectations to less favourable circumstances and shift their life goals to more attainable ones (see e.g., Goodinson & Singleton, 1989). This shift may contribute to higher levels of life satisfaction despite the occurrence of negative controllable or uncontrollable LE. The general mechanism of response shift, as described by Schwartz and Sprangers (2000), may provide an explanation for the change in overall SWB. They offered three explanations for response shift: reconceptualisation, reprioritisation and recalibration. The first explanation refers to a change in the concept of SWB over time. The second, reprioritisation, explains the shift from a rebalance in the concept, by which the same predictors are used but with different values. Following the third explanation, persons can change their point of reference and adopt a different benchmark. The mechanisms or events leading to the increase in SWB demonstrated in the present study merit further exploration, keeping in mind the role of positive controllable events. The function of social relationships and social support in the occurrence and consequences of strain in this patient population is of interest. For instance, Cullen and Wright (1997) argued that social support is a major intervening variable that insulates strained individuals from coping by criminal means. Social support can also have a buffering effect on stress/strain, because support involves the transfer of resources, especially in reciprocal relationships. However, several of the diagnostic criteria for PDs, especially PDs from Cluster B, (APA, 2000) are related to the inability to engage in or maintain social relationships or to participate responsibly in social institutions. This possible discrepancy is worthwhile studying, since research finding could help determine whether clinicians need to focus either on strengthening pro-social relationships (which could assist patients in choosing non-criminal coping strategies) or on limiting relationships in order to limit sources of strain. The possible role of psychiatric treatment in the increase in SWB should also be considered, because some of the patients in this study were undergoing treatment during the assessment period. The positive controllable events most mentioned were: holidays, having made an important decision about one's future, entering a new intimate relationship, an important buy and return to work. These are events which a person can influence. In forensic outpatient treatment, such events can be targeted and patients can be encouraged to engage in behaviour resulting in these events. In line with the Good Lives Model of Ward (2002), their subjective well-being may improve as a result of an increase in positive events, which could in turn reduce the patient's risk of re-offending.

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