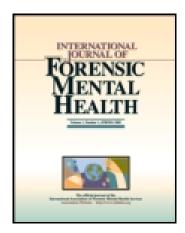
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## Subjective Well-Being and Recidivism in Forensic Psychiatric Outpatients

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# Subjective Well-Being and Recidivism in Forensic Psychiatric Outpatients

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In community-based forensic psychiatry, subjective well-being (SWB) is rarely considered as an explicit treatment target. According to the General Strain Theory and the Good Lives Model, a negative relationship between SWB and re-offending in personality-disordered patients can be hypothesized. In a multi-center, prospective study, the short-term effect of SWB on self-reported criminal offending behavior over a three-month period was explored. SWB was also related to official recidivism data over a follow-up period of three years. Overall SWB and satisfaction with health and finances predicted recidivism to a moderate degree. Furthermore, creating a meaningful life was negatively related to recidivism. For patients with a high risk level, SWB with health buffered self-reported re-offending; this effect was not found in relation to official reconvictions. The protective effect of positive SWB in reducing both short-term and long-term criminal behavior in forensic psychiatric outpatients merits further attention in community-based forensic psychiatric treatment.

**Keywords:** forensic psychiatry, subjective well being, criminal recidivism, outpatients

#### INTRODUCTION

In treatment of forensic psychiatric (out)patients, risk assessment and risk management instruments are increasingly used to identify dynamic risk factors as the main treatment targets. Until the late nineties, none of the major risk assessment instruments incorporated protective factors. More recently, several instruments have been developed which incorporate these factors, such as the *Structured Assessment of Violence Risk in Youth* (SAVRY; Bartel, Borum, & Forth, 2000); the *Short Term Assessment of Risk and Treatability* (START; Webster, Martin, Brink, Nicholls, & Middleton, 2004); the *Inventory of Offender Risk, Need and Strength* (IORNS; Miller, 2006); and the *Structured Assessment of Protective Factors* 

for violence risk (SAPROF; deVogel, de Ruiter, Bouman, & de Vries Robbé, 2007). Only one risk management instrument, the *Structured Outcome Assessment and Community Risk Monitoring* (SORM; Grann et al., 2001), contains a self-report assessment of subjective well-being.

Several criminological theories relate subjective well-being to desistance from crime. For instance, General Strain Theory (Agnew, 1992) states that strain results in negative affect, which in turn influences delinquent behavior. Furthermore, the idea that the risk of maladaptive behavior, such as criminal offending, diminishes when persons have a fulfilling or 'good life' is central to the so-called 'Good Lives Model' (Ward, 2002). Although the theoretical notion of subjective well-being has entered the field of risk assessment, the empirical evidence for it is very limited, as Ogloff and Davis (2004) stated: "despite the attention paid to concepts of psychological well-being (...), relatively little is actually known about these matters among offenders" (p. 238).

Subjective well-being refers to the individual's cognitive and affective judgment of his or her entire life-situation, as well as of specific life domains (Diener & Suh, 1997). In studies on quality of life, both subjective and objective or social indicators are used to map quality of life. Social indicators reflect a person's objective circumstances in a given cultural or geographic environment (Diener & Suh, 1997). Examples are: employment, financial situation, social contacts, and intimate relationship.

The relationship between social indicators or objective life circumstances, such as work, leisure activities, financial status, and recidivism has been demonstrated in several studies (see, e.g., Bouman, de Ruiter, & Schene, in press; Gendreau, Goggin, & Gray, 2000; Goggin, Gendreau, & Gray, 1998; Monahan et al., 2001; Odonne-Paolucci, Violato, & Schofield, 2000). Paid employment, engagement in structured leisure activities, and sound financial management, all reduce the risk of re-offending. So far, the relationship between SWB and criminal recidivism has rarely been explored. One study used return to jail, due to violation of probation or parole conditions, as an outcome measure in a sample of predominantly male offenders with schizophrenia (N = 65; Draine & Solomon, 1994). Just over a quarter of the sample had to return to jail within six months, and they were less satisfied with their living circumstances and with their lives in general, than those who did not violate the parole conditions.

Subjective well-being of forensic psychiatric outpatients has been explored in several studies (Bouman, van Nieuwenhuizen, Schene, & de Ruiter, 2008; Chung, Cumella, Wensley, & Easthope, 1998; Draine & Solomon, 1992, 2000; Gerber et al., 2003; Swanson, Swartz, Elbogen, Wagner, & Burns, 2003; Williams, 2003). Generally, forensic outpatients tend to be less satisfied with their lives overall than the general population, but they are more satisfied compared to general psychiatric outpatients. On the other hand, the subgroup of patients with Personality Disorders (PDs), which constitutes the largest part of the forensic outpatient population in The Netherlands (Hildebrand & de Ruiter, 2004; Plemper, 2001), tended to be less satisfied than patients with schizophrenia (Boumanet al., 2008; Lehman, 1999; Swinton, Oliver, & Carlisle, 1999) and the general population (Narud, Mykletun, & Dahl, 2005). Co-morbidity of a PD with a major mental disorder seems also to be associated with a lower subjective QoL (Draine & Solomon, 2000; Masthoff, Trompenaars, van Heck, Hodiamont, & de Vries, 2006). Furthermore, men reported higher levels of subjective wellbeing than women (Slade et al., 2004; van Nieuwenhuizen, 1998).

The current research aimed at studying the association between subjective well-being and re-offending behavior in a sample of male forensic psychiatric outpatients with PD or PD traits. Subjective well-being was defined as the patient's self-rating of general satisfaction with life, but it was also measured in relation to specific life domains. According to Lehman (1983), global well-being depends on personal characteristics, objective circumstances in various domains and on subjective satisfaction with these life domains. Within subjective well-being, two dimensions were discerned (van Nieuwenhuizen, 1998). The internal dimension measures domains related to personal autonomy (see Boevink, Wolf, van Nieuwenhuizen, & Schene, 1995), comprising positive and negative self-esteem, life fulfilment and framework. The latter two assess whether an individual envisions his life as having some meaningful perspective and whether he has derived a set of life-goals from it. The external dimension consists of subjective life domain–specific ratings, for instance, the domains finances and family relationships.

## Research Questions and Hypotheses

We examined the following research questions: (1) What is the association between overall and domain-specific subjective well-being and short-term self-reported delinquent behavior at a 3-month follow-up? (2) What is the association between overall and domain-specific subjective well-being and officially documented offending behavior at a 3-year follow-up? (3) Are indicators of personal autonomy related to recidivism? (4) Is subjective well-being related to recidivism, after controlling for treatment intensity, prior convictions, and risk level?

Based on the notion that a good or fulfilling life may lead to lower levels of criminal behavior, we hypothesized that patients with higher subjective well-being, both in general and on different domains, would report less delinquent behavior than patients with low subjective well-being, in the short-term and also in the longer term.

It is well established that certain risk factors influence criminal recidivism: treatment intensity, number of prior convictions, and general risk level. Patients with a higher treatment intensity commit fewer offenses than patients with a low treatment intensity (Monahan et al., 2001). Patients with prior convictions commit offenses more often than patients without criminal convictions (Bonta, Law, & Hanson, 1998; Coid, Hickey, Kahtan, Zhang, & Yang, 2007; Monahan, 1981; Monahan et al., 2001). And, patients with a higher risk level for future criminal recidivism re-offend more than patients with a low risk level (Andrews & Bonta, 2000; Bonta et al., 1998).

Thus, we hypothesized that subjective well-being will buffer these risk factors, particularly in high risk patients. High-risk patients with a high level of subjective well-being will re-offend less compared to high-risk patients with a low level of SWB. In a buffering model, "risk factors have an impact on behavior only under certain conditions such as the lack of protective mechanisms" (Fitzpatrick, 1997, p. 136).

#### **METHOD**

## Design

A prospective multi-center study was conducted using a random sample of adult male personality-disordered forensic outpatients. The inclusion criteria were: male gender; 18 years or older; IQ higher than 70; and a primary diagnosis of PD or PD traits (DSM-IV-TR; American Psychiatric Association, 2000). Exclusion criteria were: a comorbid Axis I disorder of mood, anxiety, or psychosis. The patients had to be in contact with the forensic treatment center at least once a month at the time of the first interview  $(T_0)$ .

#### Procedure

One hundred thirty-five patients participated. Overall and domain-specific subjective well-being was assessed by means of the extended Dutch version of the Lancashire Quality of Life Profile (LQoLP; van Nieuwenhuizen, Schene, & Koeter, 1998). Next, the Level of Service Inventory – Revised (LSI-R; Andrews & Bonta, 1995) was completed by trained interviewers. Three months later  $(T_1)$ , all patients who were interviewed at T<sub>0</sub> were sent or given an envelope containing the Self-reported Delinquent Behaviour Inventory (SRDB; van Dam, Janssens, de Bruyn, van Koolen, & Spee, 1999). If a patient was no longer in treatment or the frequency of contact was low, the questionnaire was sent by mail, otherwise it was given to him during a treatment session. Due to privacy constraints, it was not possible to send a reminder to patients who did not respond. Again three months later  $(T_2)$ , patients were approached for another assessment, at which time the LQoLP and the LSI-R were re-administered. Two years after the last interview, official reconviction data as documented in the Judicial registration system were gathered. Before  $T_0$ , every patient gave written informed consent and permission to obtain medical and judicial follow-up information.

## **Participants**

Of the 135 patients, 64 patients (47.4%) returned the SRDB at T<sub>1</sub>. At T<sub>2</sub>, 102 patients (75.6%) were re-interviewed. The average age of the 135 patients was 37.5 years (SD = 10.4). About one-third had not finished any type of formal education or only primary school. Almost half of the patients had an intimate relationship and about a third held a job. For a third of the patients, the treatment in the forensic outpatient facility was their first contact with mental health services. Seventy percent of the patients were diagnosed with a PD, of whom the majority with PD Not Otherwise Specified (37.8%). Cluster B disorders (antisocial, borderline, and narcissistic PD) were present in 23% of the patients. The other patients did not reach the threshold for a full PD, but had a subclinical PD. Most patients had been previously convicted of a crime (74.6%). The crimes were mainly violent offenses (57.8%), sexual offenses (28.1%) or property offenses (13.3%). For almost half of these patients, the LSI-R resulted in a high risk of recidivism, and 21.5% were judged low risk (for a more detailed description of the sample see Bouman et al., 2008).

Patients who had not returned the questionnaire at  $T_1$  were compared to patients who had, on demographic, criminal and treatment characteristics. Responders did not differ from drop-outs on any of these characteristics.

The 102 patients who participated at T<sub>2</sub> were compared to the 33 patients who did not take part in the follow-up interview on these same characteristics. Patients who participated at  $T_2$  had fewer prior convictions (2.6 vs. 4.9; F(1) = 4.805; p = .030). Patients who did not participate at the second interview round had fewer comorbid Axis I disorders, such as mild depression, posttraumatic stress disorder, and dysthymic disorder (10.3% vs. 28.3%;  $\chi^2(1) =$ 3.976; p = .046). No other differences were found between responders and nonresponders with regard to type of disorder; age; years of education; IQ; global subjective QoL at  $T_0$ ; framework of treatment (mandatory or not); having a relationship; having work; living of a social benefit; having debts or children; being previously admitted to a psychiatric hospital; LSI-R risk level; and being previously convicted or incarcerated.

#### Independent Variables

## Subjective Well-Being

Subjective well-being was assessed by means of Dutch version of the Lancashire Quality of Life Profile (LQoLP; van Nieuwenhuizen, Schene, & Koeter, 1998). Within subjective well-being, two dimensions were discerned (van Nieuwenhuizen, 1998): an internal dimension with four subscales and an external dimension with six domain-specific subjective ratings. The internal dimension consisted of four (sub)scales. It included the subscales positive and negative self-esteem of the Self-Esteem Scale (Rosenberg, 1965, in van Nieuwenhuizen, 1998; and in Oliver et al., 1996). Five positively labelled items were used to indicate positive self-esteem, for instance "You feel you have a number of good qualities" and five negatively phrased items were used to indicate negative self-esteem, for instance "You feel you do not have much to be proud of" (see Oliver et al., 1996, p. 255). For the analyses, the scores on the negative self-esteem subscale were reversed: a high score was therefore positive and a low score was negative. The two subscales of the Life Regard Index (Dutch adaptation by Debats et al., 1993; see also Debats, 1996b) were also part of the internal dimension: the Framework scale, which assesses "the degree to which individuals can envision their lives within some meaningful perspective or have derived a set of life-goals or philosophy of life from these" (Debats, 1996a, p. 14) and the Fulfilment scale, which "measures the degree to which people see themselves as having fulfilled or as being in the process of fulfilling their framework of life-goals" (Debats, 1996a, p. 14). The external dimension consisted of six domain-specific subjective ratings concerning: leisure and social participation, finances, family, living circumstances, health, and safety. The Life Satisfaction Scale (LSS) was used to measure satisfaction on these domains. All ten subjective indicators were transformed into a 7-point scale, with 1 = very dissatisfied/dissatisfactory; and 7 = very satisfied / satisfactory. A global measure of subjective well-being was also included, namely Cantril's Ladder (Cantril, 1965, in van Nieuwenhuizen, Schene, Boevink, & Wolf, 1998). On 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. The six domain-specific indicators of SWB and the four internal indicators of SWB, as well as Cantril's Ladder at T<sub>0</sub> were related to self-reported offenses at T1 and scores at T2 were related to official recidivism data at 3-year follow-up.

## Dependent Variables

## Self-Reported Offenses

Delinquent behavior of forensic patients was measured using the *Self-reported Delinquent Behaviour Inventory* (SRDB; van Dam et al., 1999). The SRDB asks the respondent to indicate which of the 21 listed types of offenses he committed during the three months prior to assessment at T<sub>1</sub> and there is one open item for offenses not listed. Self-reported offenses were categorized into property offenses, violent offenses, sexual offenses, and general offenses. A dichotomized score of each type of offense, with a score of zero indicating no such behavior and a score of one indicating one or more incidences of the type of offense, was used in the analyses.

A one-week test-retest reliability study of the SRDB among 27 adult male forensic psychiatric outpatients was conducted. The reliability was  $r_s = .72$  for property offenses,  $r_s = .74$  for violent offenses and  $r_s = .82$  for total number of offenses. No information on the reliability of the SRDB for sexual offenses was obtained due to the absence of such behavior.

#### Official Recidivism

Official recidivism data were obtained from the Central Judicial Documentation register of the Dutch Ministry of Justice in February 2008. This covered a period of at least 28 months and at most 46 months after  $T_2$  (mean follow-up time = 37 months; SD = 4.5 months). Data were obtained for 133 of the patients who entered the study at  $T_0$ . Data on two patients were not or were no longer present in the register. One hundred two patients participated at  $T_2$ ; data for these patients were used here.

We distinguished between patients who were convicted for an offense committed after  $T_2$  and patients who were not convicted. Minor offenses, such as traffic violations, were not included. The type of offense committed was coded as a sexual, violent, or property offense, or arson. These five indicators for recidivism were dichotomized into 0 (= not present) and 1 (= present).

#### Control Variables

In the MacArthur risk assessment study (Monahan et al., 2001), patients who remained in regular contact with the treatment center were less often violent after release from hospital than patients with a lower frequency of contact. We therefore distinguished high and low *treatment intensity*, by dichotomizing the number of treatment contacts during the six months between  $T_0$  and  $T_2$ , using a median split.

The LSI-R (Andrews & Bonta, 1995) was used to assess the *level of risk* a patient posed. LSI-R total scores range from 0 to 54 and were transformed into valid percentages. Following Austin and colleagues (2003), a score between 0% and 28% was considered low risk; a score between 28% and 41% was labelled moderate risk; and a score of 41% or more was considered high risk of recidivism. The scores at T<sub>0</sub> were used in analyzing the influence on self-reported offenses, and the scores at T<sub>2</sub> were used when examining the association with official recidivism data.

Previous offending behavior has been established as one of the strongest predictors of future criminal behavior (Bonta et al., 1998; Coid et al., 2007; Monahan, 1981; Monahan et al., 2001). We used *previous conviction*(s) (0 = no prior conviction; 1 = one or more prior convictions) as indicator of previous offending behavior. Here also, the score at  $T_0$  was used in studying the association to self-reported offenses, and the score at  $T_2$  was related to official recidivism data.

## Data Analysis

The association between each indicator of subjective wellbeing and self-reported delinquent behavior and official recidivism was studied using bivariate analyses. First, the predictive validity was studied. Next, partial correlations were assessed, controlling for treatment intensity, for prior convictions and for general risk level. The predictive power of subjective well-being for recidivism was explored using Receiver Operating Characteristics (ROC) curves. In a ROC curve, the sensitivity is mapped against 1 minus the specificity (Fawcett, 2004; Mossman, 1994). A score of 0.5 represents random guessing, and a score of 1.0 represents perfect classification (Hanley & McNeil, 1982). The threshold of the areas under the ROC curve (AUC) which can be considered adequate or good has not been agreed upon. For instance, Sjöstedt and Grann (2002) proposed an AUC ≥.60 as marginally accurate;  $\geq$ .70 as modest accuracy;  $\geq$ .80 as moderate accuracy; and ≥.90 as high accuracy, whereas de Vogel and colleagues (2004) considered AUCs > .70 as moderate and  $\geq$ .75 as good. We reported significance levels of the AUCs, and paid attention to the relevance of the outcome in the Discussion section.

Self-reported general offenses Self-reported violent offenses Self-reported property offenses AUC SE 95% CI AUC 95% CI AUC SE 95% CI Leisure and social participation .55 .07 .41 .70 .51 .09 .34 .69 .09 .31 .66 .68\* .07 .55 .82 .55 .36 .74 .47 Finances .10 .66 .09 .84 .50 .07 .36 .64 .45 .09 .28 .62 .09 .26 Living circumstances .43 .61 .54 .07 .39 .68 .55 .27 Legal and safety .09 .38 .73 .47 .11 .68 .71\*\* .07 .59 .84 .73\*\* .07 .60 .86 .65 .10 .46 .84 .07 .46 .74 .48 .77 .48 .30 .63 .07 .09 .66 Family relationships .60 .59 .07 .45 .74 .49 .09 .32 .65 .42 .79 Positive self-esteem 61 09

.51

.56

.64

58

.09

.08

.07

.09

.34

.39

.50

41

.68

.72

.79

.75

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.72\*

.55

58

.09

.09

.08

.10

.41

.55

.40

38

.77

.89

.71

.77

TABLE 1 Relationship between subjective well-being at  $T_0$  and self-reported delinquent behavior over a 3-month period (N=64).

Note. AUC = Area under the curve of a Receiver Operating Characteristic. SE = Standard Error. CI = Confidence Interval. Bold = Significant Subjective Quality of Life Indicators.

Negative self-esteem

Health

Framework

Fulfilment

Cantril's ladder

#### **RESULTS**

.60

.59

.69\*

59

.07

.07

.07

.07

.46

.45

.56

44

.74

.74

.82

.73

#### Subjective Well-Being at T<sub>0</sub>

At  $T_0$ , most patients (N = 64) were satisfied with their Living arrangements (M = 5.3; SD = 1.0) and their Safety (M = 5.4; SD = 0.9). On the Life Satisfaction Scale (LSS) with Leisure time and social participation (M = 4.9; SD =0.8), with Family (M = 4.7; SD = 1.2) and with Health (M =4.6; SD = 1.0), patients reported a positive score. Patients assessed the LSS with their Finances as neutral (M = 4.0; SD = 1.4). On average, patients scored satisfactory ( $\geq 5$ ) on Positive Self-Esteem (M = 5.9; SD = 1.2) and on their Life Framework (M = 5.8; SD = 1.1). They assessed their Negative Self-Esteem as low (M = 4.9; SD = 1.5) and Life Fulfilment (M = 4.8; SD = 1.2) as almost satisfactory. Considering their lives in general, using Cantril's Ladder, patients viewed their lives as just below average quality (M = 45.8; SD = 22.1).

## Self-Reported Delinquent Behavior Between T<sub>0</sub> and T<sub>1</sub>

More than 40% of the patients (N = 64) reported any type of delinquent behavior during the three months between T<sub>0</sub> and  $T_1$ . This was mostly violent offending behavior (21.7%), such as threat with violence in public or involvement in a fight. Equally, a relatively large proportion (18.8%) reported property offenses, such as dealing in stolen goods or using public transportation without payment. In the analysis of the association between self-reported offenses and SWB, arson (0%) and sexual offenses (1.6%) could not be examined separately, due to low base rate.

## Prediction of Self-Reported Offences by Subjective Well-Being Indicators

To explore the predictive validity of the indicators, the AUC of the ROC was calculated with the three types of selfreported offenses as outcome variable (Table 1). The range of the AUCs for self-reported property offenses was .43 to .72. Only the AUC between Framework and self-reported property offenses, was significant (AUC = .72). The range of the AUCs for self-reported violent offenses was .45 to .73. LSS with Health resulted in a significant AUC of .73 with violent offenses. LSS with Health also resulted in a significant AUC of .71 with self-reported general offenses, as did LSS with Finances (AUC = .68). Life Fulfilment also resulted in a significant AUC of .69 for self-reported general offenses. The range of the other, nonsignificant, AUCs for general offenses was .50 to .60.

## Association Between Subjective Well-Being and Self-Reported Offenses Controlling for Risk Variables

Of the three variables—treatment intensity, previous convictions, and risk level—only risk level correlated significantly, though modestly, with self-reported property offenses  $(r_s = .32)$  and self-reported general offenses  $(r_s = .28; \text{ Ta-}$ ble 2). In both cases, the higher the risk, the higher the rate of offenses was.

The association between Satisfaction with Finances and self-reported general offenses did not remain significant when controlling for risk level (r = -.22; p > .05; zeroorder: r = -.26; p < .05). Satisfaction with Health still correlated with self-reported general offenses when controlling for risk level (r = -.32; p < .05; zero-order: r = -.38;

 $p^* p \le .05. p^* \le .01.$ 

TABLE 2 Relationship of risk factors with self-reported delinquent behavior over a 3-month period ( $T_0-T_1$ ; N=64).

	%		Violent offenses	Property offenses
Incidence		42.2	21.9	18.7
LSI-R low risk (<28%)	25.0	25.0	12.5	.0
LSI-R medium risk (28%–41%)	31.3	42.1	15.8	21.1
LSI-R high risk (≥41%)	43.8	59.1*	36.4	31.8 *
Offense history: ever convicted	67.2	46.5	25.6	20.9
Never convicted before	32.8	33.3	14.3	14.3
Intensive treatment ( $\geq 17 \times /6$ months)	53.1	44.1	26.5	11.8
Low treatment intensity	46.9	40.0	16.7	26.7

*Note*. Cells represent proportions of the group, who scored positive on the outcome measure (i.e., self reported offenses).

p < .005). The association between Life Fulfilment and self-reported violent offenses remained significant controlling for risk level (r = -.26; p < .05; zero-order: r = -.32; p < .01). The same results were found for the association between Life Fulfilment and self-reported general offenses: controlling for risk level: r = -.39 (p < .005; zero-order: r = -.44; p < .001).

To test the hypothesis that SWB will buffer delinquent behavior in high-risk patients as defined by Austin and colleagues (2003; N=28), we compared high-risk patients who were less satisfied on the indicators of SWB with high-risk patients who were satisfied on the three types of self-reported criminal behavior. This comparison resulted in one significant association: high-risk patients who were less satisfied with health reported three times more general offenses than high-risk patients who were more satisfied with their health (LSS  $\geq$  M: 20.0% offenses vs. LSS < M: 66.7% offenses;  $\chi^2[1] = 5.600$ ; p = .018).

## Subjective Well-Being at T<sub>2</sub>

At  $T_2$ , most patients (N = 102) were satisfied with their Living arrangements (M = 5.3; SD = 1.1) and their Safety (M = 5.4; SD = 1.0). On LSS with Leisure time and social participation (M = 4.9; SD = 0.8), with Family (M = 4.5; SD = 1.5) and with Health (M = 4.8; SD = 0.9), patients reported a positive score. Patients assessed the LSS with their Finances as just below neutral (M = 3.8; SD = 1.5). There were no significant differences on domain-specific life satisfaction between  $T_0$  and  $T_2$ .

On average, patients scored satisfactory ( $\geq$ 5) on Positive Self-Esteem (M=6.0; SD=1.3), Life Fulfilment (M=5.1; SD=1.3), on Life Framework (M=6.0; SD=1.0) and low on Negative Self-Esteem (M=5.3; SD=1.6). Except for Positive Self-Esteem, patients scored significantly higher at  $T_2$  on all aspects of their internal subjective well-being compared to  $T_0$ . Considering their lives in general, using Cantril's Ladder, patients viewed it as satisfactory (M=1.0).

58.0; SD = 19.4). This score was also significantly higher than their score at  $T_0$ .

#### Official Recidivism Data

Almost a quarter of the patients (24.5%) had been convicted of a new offense committed after T<sub>2</sub>. For 13.7% of the patients, a trial procedure was still in progress. Most patients were (re)convicted of a violent offense (19.6%), whereas 9.8% had committed a property offense. No patients had been reconvicted of arson after T<sub>2</sub>, and two patients were reconvicted of sexual offenses. The latter two outcomes were not used in studying the association between SWB and recidivism, due to low base rates. Eleven percent of the patients received a prison sentence, and seven patients got fines. Almost 6% of the patients were required to perform community service.

## Subjective Well-Being and Official Recidivism

We found one significant AUC value for SWB at  $T_2$  for new convictions in general (for LSS with Health: AUC = .64) and one for new convictions for property offenses (for LSS with Finances: AUC = .70; Table 3). Three significant AUCs for violent offenses emerged, one for Satisfaction with Health (AUC = .72), one for Life Framework (AUC = .64), and one for Cantril's ladder (AUC = .66).

## Controlling for Risk Variables in the Association between Subjective Well-Being and Official Recidivism

Similar to the results for self-reported offenses, treatment intensity and previous convictions did not correlate significantly with official recidivism (Table 4), so these variables were excluded from further analyses. Risk level, as measured with the LSI-R, correlated significantly with new convictions  $(r_s = .31)$ , with violent offenses  $(r_s = .22)$  and with property offenses  $(r_s = .29)$ .

None of the previously found zero-order associations remained significant when controlling for risk level. The association between Satisfaction with Health and violent reconvictions became r = -.18 (p > .05; zero-order: r = -.25; p < .05); the association between Life Framework and violent reconvictions went from r = -.20 (p < .05) to r = -.13 (p > .05) when controlling for risk level. The same result was found for the association between Cantril's Ladder and violent reconvictions: controlling for risk level: r = -.17 (p > .05; zero-order: r = -.20; p < .05).

Patients with a high risk level (N = 55), as measured by the LSI-R, committed fewer violent offenses if they were more satisfied with their health than when they were less satisfied with it (LSS Health  $\geq$ M: 5.9% offenses vs. LSS Health < M: 36.8% offenses;  $\chi^2[1] = 5.676$ ; p = .017). The general level of SWB also seemed to act as a buffer: high-risk patients who were less satisfied in general as measured with

<sup>\*</sup> $p \le .05$ .

TABLE 3 Relationship between subjective well-being at  $T_2$  and recidivism after 3 years (N = 102).

	New conviction			Violent offense			Property offense					
	AUC	SE	95%	% CI	AUC	SE	95%	% CI	AUC	SE	95%	CI
Leisure and social participation	.56	.07	.42	.70	.60	.08	.44	.75	.51	.10	.32	.71
Finances	.61	.07	.48	.75	.63	.07	.49	.77	.70*	.10	.51	.89
Living circumstances	.58	.07	.45	.71	.59	.08	.44	.73	.59	.11	.37	.81
Legal and safety	.56	.06	.43	.69	.56	.08	.41	.71	.57	.09	.38	.75
Health	.64*	.06	.52	.77	.72**	.07	.59	.84	.65	.08	.50	.81
Family relationships	.47	.07	.33	.60	.49	.08	.33	.64	.67	.09	.49	.84
Positive self-esteem	.50	.07	.35	.64	.52	.08	.36	.67	.57	.10	.39	.76
Negative self-esteem	.53	.07	.40	.66	.50	.08	.36	.65	.54	.09	.36	.72
Framework	.59	.07	.45	.72	.64*	.07	.50	.79	.63	.10	.44	.81
Fulfilment	.56	.07	.43	.70	.59	.07	.46	.73	.54	.11	.33	.76
Cantril's Ladder	.62	.06	.50	.75	.66*	.07	.52	.80	.55	.09	.38	.72

*Note.* AUC = Area under the curve of a Receiver Operating Characteristic. SE = Standard Error. CI = Confidence Interval. Bold = Significant Subjective Quality of Life Indicators.

Cantril's Ladder (CL) committed three times more violent offenses than high-risk patients who were more satisfied with their lives (CL  $\geq$ M: 13.0% offenses vs. CL < M: 37.5% offenses;  $\chi^2[1] = 4.035$ ; p = .045).

#### DISCUSSION

Subjective well-being is believed to serve as a buffer to prevent criminal behavior (Ward, 2002). In our study of forensic psychiatric outpatients, general subjective well-being did not show a negative association with self-reported criminal behavior in the short-term. However, two specific SWB indicators—satisfaction with health and life fulfilment—did predict significantly decreased self-reported violent and general offenses. The risk level of the patients correlated sig-

TABLE 4 Relationship of risk factors with official recidivism after  $T_2$  (N=102).

	%	Any new conviction		Conviction for property offense
Incidence		24.5	19.6	9.8
LSI-R low risk (<28%)	18.6	5.3	5.3	.0
LSI-R medium risk (28%-41%)	27.5	14.3	14.3	.0
LSI-R high risk (≥41%)	53.9	36.4***	27.3*	18.2***
Offence history: ever convicted	84.3	27.9	22.1	11.6
Never convicted before	15.7	6.3	6.3	.0
Intensive treatment $(\ge 17 \times /6 \text{ months})$	55.9	24.6	17.5	14.0
Low treatment intensity	44.1	24.4	22.2	4.4

*Note*. Cells represent proportions of the group, who scored positive on the outcome-measure (i.e., recidivism).

nificantly with self-reported general and property offences, with a medium effect size (r = .28; r = .31; according to Cohen, 1988). The way patients perceived their health and their lives and, more specifically, when they envisioned themselves to achieve their own life goals correlated with general self-reported offenses, even after controlling for risk level. SWB with health buffered a high risk level for self-reported general offenses: high-risk patients who were more satisfied with their general and mental health reported three times fewer general offenses than high-risk patients who were less satisfied.

General subjective well-being was only modestly negatively related to official violent reconvictions in the longer term. Satisfaction with health was also significantly related to fewer reconvictions for violent offenses. After controlling for risk level, which again correlated with reconvictions with a medium effect size, none of the previously mentioned significant associations between subjective well-being indicators and official re-offending remained significant. However, satisfaction with health and general life satisfaction did buffer a high risk level for violent reconvictions after a 3-year followup. Patients' judgments about their health, as well as their satisfaction with mental health care, was associated with a significant difference in number of reconvictions for violent offenses: more satisfied patients committed six times fewer violent re-offences than dissatisfied patients; general life satisfaction resulted in a three times lower level of reconvictions for violent crimes compared to patients who were not that satisfied with their lives.

We used the Good Lives Model (Ward, 2002) as the general framework for our research to explore the relationship between subjective well-being and criminal behavior. In the GLM, patients are hypothesized to be less inclined to commit offenses if their lives are good and fulfilling. We operationaliszd 'a good life' as satisfaction with oneself and one's life

<sup>\*</sup>  $p \le .05$ ; \*\*  $p \le .01$ .

<sup>\*</sup> $p \le .05$ . \*\* $p \le .01$ . \*\*\* $p \le .005$ .

as perceived by the patient. The fulfilling life was studied by means of two subscales of the Life Regard Index: life framework and life fulfilment. The results, especially for satisfaction with health and satisfaction with their lives in general, support the good lives notion. The strength of the correlations indicated that subjective well-being seems to have a stronger effect on short-term delinquent behavior than on longer-term reconvictions, although for high-risk patients, there was also an effect on the longer term.

In the Good Lives Model (Ward, 2002), a good or fulfilling life is supposed to contribute to a reduction in recidivism (Ward & Brown, 2004). A good life becomes possible when "an individual possesses the necessary conditions for achieving primary goods, has access to primary goods, lives a life characterized by the instantiation of these goods and when this is achieved in balance with the social obligations of community membership" (Ward & Brown, 2004, p. 249). Primary (human) goods are "defined as actions, states of affairs, characteristics, experiences, and states of mind that are intrinsically beneficial to human beings" (p. 246). Examples are good health, freedom from stress, and spirituality.

The results of our study support the general assumption of the GLM. More specifically, three primary human goods mentioned in the GLM were protective against re-offending: a good life (expressed in good health and sound finances), agency and spirituality (both expressed in life framework and life fulfilment). Both our study and studies by Purvis (2005; mentioned in Ward, Mann, & Gannon, 2007) and Lindsay, Ward, Morgan, and Wilson (2007) underscore the importance of including notions of the good life or subjective well-being in a theoretical model to understand criminal (re)offending.

The main limitation of this study was the sample size, especially in the study of the association between SWB and self-reported offenses. The response rate for self-reported delinquent behavior after three months was less than 50%. We were unable to (re-)approach nonresponders to improve the response-rate, due to restrictions concerning the anonymity of participants. However, we did not find any significant differences between responders and nonresponders at  $T_1$  on important risk factors.

In our sample, the domain-specific indicators of SWB did not change within the six-month period, but general SWB and three of the four internal indicators of SWB did change significantly. Whether these changes result in a lasting higher level of SWB is unknown, and could be a subject for future studies. With the present design, we were unable to determine whether indicators of SWB should be considered stable or acute dynamic factors (see Hanson & Harris, 1998; Webster, Douglas, Belfrage, & Link, 2000). The lack of an association of SWB with long-term criminal reconvictions may indicate either an absence of an association between SWB and longer term criminal behavior or point at the acutely dynamic nature of SWB, which might fluctuate with degree of mental health support.

In our study, five significant AUCs reached a level of ≥.70: between Satisfaction with Health and self-reported violent and general offenses; between Life Framework and self-reported property offenses; between Satisfaction with Finances and property reconvictions; and between Satisfaction with Health and violent reconvictions, but none reached the threshold of >.75. In our opinion, these values are of modest accuracy. The other significant AUCs did not reach this threshold. The lower bound of the 95% confidence intervals did not reach the .70 threshold in any case. The highest was found for the curve of satisfaction with health and self-reported violent offenses: lower bound AUC = .60. Although these values are modest, "[instruments] of modest accuracy yield relevant information that is better suited to legal decision-making than simply betting the base rate" (Mossman, 2008, p. 280), because "even modest accuracy (i.e., AUC  $\cong$  0.7) can identify some offenders as statistically "likely" to recidivate" (p. 288).

The primary aim of this study was to identify possible protective factors for criminal (re-)offending. Although the results are modest, they are promising enough to merit further exploration in future studies. Our study had a crosssectional, prospective design. To more fundamentally explore the possible buffering effect of subjective well-being on criminal desistance, an experimental design is warranted. The Good Lives Model offers means to improve subjective well-being of offenders. Thus, a design in which forensic psychiatric outpatients are randomly assigned to a control group and to an experimental group which undergoes (additional) treatment with a good lives plan to enhance subjective well-being, which employs outcome measures such as shortterm self-reported and official long-term re-offending could provide more insight into the possible causal association between subjective well-being and desistance from criminal offending.

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