

Resilience and Successful Community Reintegration among Female Forensic Psychiatric Patients: A Preliminary Investigation

Simone Viljoen, M.Sc.^{*}, Tonia Nicholls, Ph.D.[†],
Caroline Greaves, Ph.D.[†], Corine de Ruiter, Ph.D.[‡],
Johann Brink, M.B., Ch.B., F.C.Psych. (S.A.), F.R.C.P.C.[†]

Research on resiliency and recovery in forensic psychiatric patients is still limited. Information pertaining to factors associated with successful community reintegration would contribute to a more comprehensive assessment of functioning and informed treatment planning that fits within a recovery approach of service provision. Using a retrospective design involving file reviews and a 3-year follow-up period, the authors investigated the rate of successful/unsuccessful community reintegration (defined by the presence or absence of an absolute discharge/readmission to hospital) in female forensic psychiatric patients ($N=48$). The study evaluated the extent to which the risk and protective factors captured in the Short-Term Assessment of Risk and Treatability (START) predicted a range of positive and negative outcomes in the study sample. Results showed that 47.9% of the women qualified as having successfully reintegrated into the community, with the remaining 52.1% qualifying as still being in recovery. Successful individuals possessed significantly more protective factors and significantly fewer risk factors than individuals still in recovery. Furthermore, both the vulnerability and the strength scale of the START demonstrated good predictive validity, however we did not find evidence of incremental validity of the strength scale. Copyright © 2011 John Wiley & Sons, Ltd.

Evaluating research on recidivism rates, it is apparent that approximately 52% of the general offender population, between 31% and 85% of mentally ill offenders, and as many as 70–87% of forensic patients do not reoffend within two to five years after release (Bonta, Law, & Hanson, 1998; Douglas, Ogloff, & Hart, 2003; Harris, Rice, & Cormier, 2002; Peersen, Sigurdsson, Gudjonsson, & Gretarsson, 2004; Poporino & Motiuk, 1995). Factors such as previous offending behavior and criminal justice involvement are well recognized as strong predictors of future offending. By definition, then, forensic patients and other individuals with a history of coming into conflict with the law are already at an elevated risk for offending and violence than individuals without a criminal history. Yet even within such high-risk populations, many at-risk

^{*}Correspondence to: Simone Viljoen, Department of Psychology, Simon Fraser University, RCB 5246, 8888 University Drive, Burnaby, BC V5A 1S6, Canada. E-mail: simviljoen@gmail.com

[†]Forensic Psychiatric Hospital, British Columbia Mental Health & Addiction Services and Department of Psychiatry, University of British Columbia, Canada.

[‡]Maastricht University, the Netherlands.

individuals do not go on to reoffend. Those who reoffend may have more risk factors than those who do not. Conversely, those who do not reoffend may possess more characteristics consistent with the concept of resiliency (Nicholls, Brink, Desmarais, Webster, & Martin, 2006; de Vogel, de Ruiter, Bouman, & de Vries Robbé, 2009; Webster, Martin, Brink, Nicholls, & Desmarais, 2009).

According to Fergus and Zimmerman (2005) vulnerability refers to the extent to which someone will have an increased likelihood of experiencing a negative outcome after exposure to a risk factor. Resilience relates to avoiding the negative consequences of these adverse events despite this vulnerability. Further, Fergus and Zimmerman (2005) describe what is referred to as the 'resilience process'. They assert that resiliency entails the use of internal protective factors, or 'assets', in combination with external protective factors, or 'resources'. This is a useful perspective from which to examine recovery and recidivism research within forensic populations, in that it is clear that some risks are influenced not only by internal protective factors such as insight and prosocial attitudes but also by external protective factors, such as social support or the neighborhood of residence. More importantly, these factors are malleable, and thus can guide treatment and risk management.

Resilience in the forensic context might best be understood in terms of the extent to which protective factors help individuals to avoid exposure to risk factors (e.g., housing subsidies to support availability of a stable residence), to recover from the effect of risk factors (e.g., professional services to address post-traumatic stress disorder; promoting an internal locus of control, increasing optimism), or to reduce negative outcomes as a result of exposure to risk (e.g., communication skills and coping strategies that serve to support non-violent conflict resolution). The literature suggests that risk factors are not automatically negated by the presence of a particular protective factor (or factors) (de Vogel et al., 2009; Webster et al., 2009; Webster, Martin, Brink, Nicholls, & Middleton, 2004). More likely, certain corresponding negative outcomes can be reduced or avoided as a result of the influence of a protective factor or several protective factors (Fergus & Zimmerman, 2005). However, there is scant literature on adult forensic patients to inform the field and support patients, family members, and professionals alike in their efforts toward successful community re-entry of forensic patients.

Recently, there has been an increased interest in studying protective factors that appear to serve individuals to avoid offending behaviors and to assist in a successful return to community settings; this research has been conducted among vulnerable populations such as forensic psychiatric patients and offenders (Nicholls et al., 2006; de Vogel et al., 2009; Webster et al., 2004, 2009; Wilson, Desmarais, Nicholls, & Brink, 2010). Historically, however, research on successful community reintegration and desistance from offending behavior has centered around juvenile offenders in terms of the trajectory of desistance in the transition from adolescence into adulthood (Aspy et al., 2004; Carr & Vandiver, 2001; Efta-Breitbach & Freeman, 2004; Fergus & Zimmerman, 2005; Hjemdal, Aune, Reinfjell, Stiles, & Friborg, 2007). Consequently, there is a stronger understanding of desistance of offending behavior and successful community reintegration within youth populations than has been developed in the adult forensic literature.

One of the first studies to investigate desistance from offending behavior in adults was a qualitative follow-up study by Haggård, Gumpert, and Grann (2001), which focused on a sample of four offenders who were considered to be high-risk and who had not recidivated (i.e., a score of at least 12 points on the historical part of the HCR-20;

convicted at least twice for violent crimes, and with at least five convictions for any crime; not having been detained in a forensic psychiatric unit or imprisoned during the past five years; and, lastly, during follow-up, they must have not been reconvicted for any crime during the past 10 years). The authors found that one participant had indeed reoffended, but that there was a long period in which he had desisted and for this reason they included him in the study. They attributed his long period of desistance largely to the support of his partner at the time. The authors noted that most of the desisters had families, and they had developed a social isolation strategy for desisting. It appeared that the men did not trust themselves to be around other people apart from their families. Interestingly, the participants' own accounts of why they desisted largely indicated a decision-making process: it seems that these men had made a conscious decision to refrain from criminal behavior, which was often triggered by a traumatic incident associated with their lifestyle.

Benda (2001) studied a group of male inmates ($N=480$) who had opted to go to a boot camp facility instead of serving a longer sentence in an institution. The study found that non-recidivists scored higher on trait measures of self-efficacy, self-esteem, and resilience than parole violators and recidivists. It is interesting that these authors cite self-esteem as a potential protective factor in that this has generally been shown to be a poor predictor of recidivism (see Andrews & Bonta, 2003). The non-recidivists also reported that they experienced the camp as more stimulating than parole violators and recidivists. Additionally, these individuals showed optimism for their future. Entering the significant risk and protective factors into a discriminant function analysis correctly classified 80% of the non-recidivists, 70% of the parole violators, and 76% of the recidivists.

One of the few studies that included both male ($N=433$) and female offenders ($N=28$) employed three measures that looked at protective factors (socialization, compliance, and social desirability/self-deception), which had previously been found to be relevant to juvenile offending (Peersen *et al.*, 2004). Socialization and social desirability/self-deception were found to be associated with lower rates of recidivism, indicating that the desire to appear socially appropriate to others may prevent released offenders from reoffending. This study did not attempt to analyze the data for males and females separately, and thus it remains unclear whether the protective factors are the same or different for men and women.

Taylor (2008) conducted a study using a group of 26 female offenders who had just been released from a New Zealand prison. In order to investigate protective factors in reoffending, the women were asked to list the factors that prevented them from reoffending. These women listed 10 protective factors: having dependent children, sufficient income, non-offending friends, a non-offending partner, interests and hobbies, employment, a supportive non-offending family member, satisfying wants, and a satisfying social life, and managing their addictions. The authors also pointed out that these protective factors are likely to interact with each other. However, these findings should be considered with caution as they relied on self-report alone.

Research on protective factors and their utility in risk assessments is limited, yet scholars have called for their inclusion in these assessments (Rogers, 2000). The Short-Term Assessment of Risk and Treatability (START; Webster *et al.*, 2004, 2009) is a brief clinical guide for the dynamic assessment of clients' risks, strengths, and treatability, which was developed to address this deficit in risk assessment measures. This tool is intended for use with diverse populations of individuals with

mental and personality disorders, including corrections inmates and probationers, forensic, and civil psychiatric patients in both in-patient and community settings. One validation study of START in a forensic psychiatric population reported the internal consistency (Cronbach's alpha) of the total START scores for diverse raters as good ($\alpha=0.87$) and relatively consistent across disciplines: psychiatrists ($\alpha=0.80$), case managers ($\alpha=0.88$), and social workers ($\alpha=0.92$). The authors found that the item homogeneity measured using the mean inter-item correlation (MIC) exceeds 0.20, which is generally agreed to reflect a one-dimensional scale (Nicholls et al., 2006). Inter-rater reliability of START has been assessed across multiple mental health disciplines finding excellent inter-rater reliability (intraclass correlation coefficient, ICC=0.81–0.87; Nicholls et al., 2006; Wilson et al., 2010).

In support of construct validity, one study examining a sample of forensic psychiatric patients found that strength total scores increased significantly and vulnerability total scores decreased significantly as security levels decreased for patients in a forensic psychiatric in-patient setting (Nicholls, Webster, Brink, & Martin, 2008). Predictive validity has been examined in prospective research, which demonstrates a moderate association between START total scores and future self-harm, aggression against others, and attempted unauthorized leave, as measured with a modified Overt Aggression Scale (Nicholls, Brink, Desmarais, Webster, & Martin, 2007). Similarly, another study by Nicholls et al. (2006) found that patients who experienced adverse outcomes during follow-up had significantly higher START total scores than those who did not have these types of experience. Additionally, this study demonstrated that START showed good predictive validity with regard to verbal aggression, physical aggression against objects and towards others, and sexually inappropriate behaviour, but not for self-harm or unauthorized leave (Nicholls et al., 2006). In another study of forensic inpatients, the START evidenced excellent inter-rater reliability and demonstrated both predictive and incremental validity over the HCR-20 historical factors and the The Hare Psychopathy Checklist: Screening Version (PCL:SV; Desmarais, Nicholls, Wilson, & Brink, unpublished). Strength total scores evidenced unique contributions to the prediction of physical aggression toward others. However, another study examining incremental predictive validity did not find support for this type of validity as neither strength nor vulnerability scores contributed independently to the prediction of aggression, although it should be noted that the overall model was significant (Wilson et al., 2010). Braithwaite and colleagues (2010) found that both the strength and vulnerability scores predicted aggression against others, suicidality and substance abuse, but only when recent behavior was not controlled for.

At present, research on desistance from offending behavior and the successful reintegration of offenders into the community remains in its infancy, and scholars are calling for research in this area to be conducted with the same dedication that has been applied to the investigation of the onset and persistence of criminal activity (Farrington, 1997). The existing body of literature that has been amassed on this topic to date has focused primarily on successful community reintegration in the context of a transition from adolescence to young adulthood. A smaller body of literature has investigated successful community reintegration in adult offenders but has focused mainly on male offenders to the exclusion of female participants. Additionally, the current literature primarily investigated inmates in the general prison population. Given these clear gaps in the literature, more research is needed, focusing on female forensic psychiatric patients. With this in mind, the objectives for

this research project were to: (1) establish prevalence rates of successful community reintegration in a sample of female forensic psychiatric patients; (2) compare and contrast the strengths and vulnerabilities of female forensic patients who have succeeded in the community (i.e., have not returned to the hospital and received absolute discharge) with those who are still in recovery; and (3) test the ability of the START (Webster *et al.*, 2004) to predict successful reintegration into the community. Until now, no study has looked at the capacity of this measure to predict successful community reintegration.

METHODS

Setting and Sampling

All accessible files pertaining to female patients released from a Canadian Forensic Psychiatric Hospital (FPH) on conditional discharge (CD) between 1994 and 2006 were eligible for inclusion in the present study ($N=50$). All of these patients had been charged with a criminal offence and were found not criminally responsible on account of mental disorder (NCRMD). Participants were all being treated by British Columbia's Forensic Psychiatric Services Commission until such time as they received an absolute discharge (AD). Two cases were excluded from the final analyses, one due to the death of a patient shortly after release (by natural causes), and the other due to inadequate file information on which to base our coding. Thus, our final sample consisted of 48 female forensic patients, who were predominantly Caucasian, single and Canadian born. The average age at index admission was 37 years with a range of 18–67 ($SD=11.0$). The average age at time of CD was 39 years (range 21–68, $SD=10.95$). Table 1 further describes the sample characteristics.

Procedures

File reviews were conducted using hospital records (i.e., clinic files which included legal, historical, and clinical information) to collect information pertaining to demographic, psychosocial, and legal histories. Risk and protective factors were coded at admission, throughout the duration of participants' hospitalizations, and at release. Outcome variables included details pertaining to new charges, readmissions to hospital, conditional discharge renewals, and whether an AD was received during the three-year follow-up time-frame. The sample was then split into two separate groups: those who successfully reintegrated into the community, and those who were still in recovery. Success in the community was operationalized by the absence of a readmission to the hospital in conjunction with the presence of an AD decision. Thus, successful reintegration entails both having no readmissions and receiving an AD during the three-year follow-up period. Conversely, being considered still in recovery entails revocation of a CD, resulting in a return to the hospital for more than seven consecutive days, and/or not receiving an AD during the three-year time frame.¹

¹ Readmission and AD are not mutually exclusive; it is possible for a patient to have a readmission and subsequently receive an AD within the three-year follow-up period.

Table 1. Sample demographics

Variable	%(N) or mean (SD)
Age at file review (years)	47.36 (11.03)
Age at admission (years)	36.58 (11.04)
Age at conditional discharge (years)	39.19 (10.95)
Caucasian	72.3 (34)
Born in Canada	57.40 (27)
High school or more	66.60 (32)
Employed	12.80 (6)
Welfare/disability pension (if unemployed)	65.90 (17)
Private home/apartment	72.30 (34)
Living alone	42.60 (20)
Ever married	56.30 (27)
Has a significant other	33.30 (16)
Marital status	
Single	33.30 (16)
Common law/married	22.90 (11)
Separated/divorced	39.60 (19)
Widowed	4.20 (2)
Number of children	1.44 (1.15)
Number of dependants ^a	0.85 (1.03)

^aDependants are individuals for whom the patient is financially responsible, such as a child or elderly parent.

Measures

A coding sheet was developed for purposes of the present study which included several sections of variables to capture demographic background information (e.g., age, ethnicity, place of birth, marital status, dependants, education level), social history (e.g., abuse history, ever married), psychiatric history (e.g., onset of mental illness, previous psychiatric admissions, substance abuse), and forensic history (e.g., history of forensic psychiatric admissions, previous charges and convictions). Details surrounding the admission were also collected, including current psychiatric diagnosis, symptoms present, and details surrounding the index offence. Protective factors noted prior to admission were also coded (e.g., stable residence, employed, stable romantic relationship). Risk factors (e.g., exposure to destabilizers, substance abuse, associating with offending peers) and protective factors (e.g., program involvement and evidence of therapeutic alliance) were coded for the time spent while in custody in the hospital. Lastly, details surrounding the release were coded, including conditions of release, reasons stated by the review board for the release, protective factors present prior to release (e.g., residence, employment status, marital status, including whether the relationship was positive or negative, presence of dependants), and life experiences and attitudes (e.g., prosocial or antisocial attitudes) while on release (e.g., adherence to medication regimen, engagement in supervision process, impulsivity).

The START is a brief clinical guide for the dynamic assessment of clients' risks, strengths, and treatability (Webster et al., 2004). The START is designed as a structured professional judgment guide intended to inform the evaluation of multiple-risk domains relevant to everyday psychiatric clinical practice, including violence, suicide, self-harm, self-neglect, substance abuse, unauthorized leave, and victimization. This measure was used to assess short-term risk for these negative outcomes three months prior to the patients' releases on CD. The START comprises 20 items; each item is scored both as vulnerability and as a strength with scores of 0 (none), 1 (possible), or 2 (definite). These

ratings are made using succinct descriptions for each item provided in the manual. After coding the items, the assessor has to make a risk judgment of low, moderate, or high for each of the seven risk estimates described earlier. The measure is intended for interdisciplinary use with forensic and civil psychiatric patients in both in-patient and community settings and is also meant to inform both therapeutic and forensic assessments (Heilbrun, 2001; Monahan, 1981). Although the START is relatively new amongst its risk assessment counterparts, it has already amassed evidence that demonstrate promising psychometric properties in forensic psychiatric patients (Nicholls *et al.*, 2006; Nicholls, Desmarais, Brink, & Petersen, 2009; Wilson *et al.*, 2010).

Statistical Analysis

Statistical analysis was performed using SPSS 13.0 for Mac OS X (SPSS INC, Chicago, IL, U.S.A.). Firstly, descriptive statistics were used (i.e., central tendency and frequency distribution) to characterize the group as a whole with regard to demographic and background details. The sample was then split into two separate groups, based on re-hospitalization versus having received an AD disposition. *T*-tests and chi-squared tests were used to establish that the two groups did not differ significantly with regard to background and demographic variables; additionally, these tests were performed as a statistical check on two additional variables that may have distinguished the two groups (i.e., duration of hospital stay, nature of index offence). To analyze differences between the successful reintegrators and those still in recovery, Student's *t*-tests were conducted to analyze the continuous variables and chi-squared tests were used for categorical variables. For chi-squared analysis, the Pearson's chi-squared statistic was used when Cochran's rule was satisfied (i.e., each cell contained five or more counts); Fisher's exact test was used when Cochran's rule was not satisfied. Where possible, variables were collapsed into fewer categories to minimize cells with fewer than five counts.

START scores were used to assess the psychometric properties of the instrument, in terms of internal consistency via Cronbach's alpha, and structural reliability via MICs and mean corrected item total correlations (MCITs). Inter-rater reliability was assessed with ICCs, using the two-way mixed effect model and absolute agreement type (McGraw & Wong, 1996). According to Fleiss (1986), the critical values for single measure ICCs are as follows: $ICC \geq 0.75$, excellent; 0.60–0.74, good; 0.40–0.59, moderate; and < 0.40 , poor. Receiver operating characteristic (ROC) analysis was conducted to test the ability of the START to predict successful reintegration, ADs, and readmissions. The main advantage of ROC analysis is that it is less sensitive to low base rates, and often is used in recidivism research to test the predictive validity of risk assessment tools (Rice & Harris, 1995; de Vogel & de Ruiter, 2005). The ROC plots the fraction of true positives (sensitivity) against the fraction of false positives ($1 - \text{specificity}$) for every possible cut-off score of an instrument. The probability that a randomly selected member from a specific group (e.g., successful reintegrators) would score higher on the instrument being tested (i.e., the START) than a randomly selected member of the opposing group (e.g., still in recovery) is represented by the Area Under the Curve (AUC) value. Additionally, point-biserial correlations were computed for the START and categorical outcomes (successful reintegration, readmission in time-frame, and AD). Lastly, we conducted logistic regressions to analyze the relative power, or incremental validity of the strength scale

of the START over the vulnerability scale for predicting successful reintegration, readmission and receiving AD. For this analysis the strength scores were reverse-coded such that lower strength scores represent higher strengths.

RESULTS

Prevalence

Table 2 provides descriptive statistics regarding the rates of successful community reintegration and absolute discharges as well as the prevalence of rehospitalizations and the reasons that women were returned to the FPH. It was found that 70.8% of women received an AD within the three-year time-frame. In total, 47.9% of the participants were readmitted to the forensic hospital. Often, more than one reason was stated for their return; the most frequent reason a woman was referred back to the hospital was for breach of their review board conditions (52.2%). Overall the reasons for return to hospital appear to largely reflect proactive attempts by staff to manage mental health and risk status [e.g., increased hostility (26%); threats to harm others (13%); suicidal ideation/attempt (13%)]. On average, participants who were returned to the hospital spent 8.25 months (SD=7.89) in the community. Of note, two participants (4.4%) received an AD and were readmitted to the FPH in the subsequent year for a new offence, one of which was a violent offence. One other participant also committed a new violent offence while on CD; thus, in total the reoffense rate was 6.3% overall and 4.2% for violent reoffenses.

Thus, based on the criteria that were set for dividing groups into those who were successfully reintegrated (i.e. having no readmissions as well as receiving AD in three-year follow-up) and still in recovery (i.e., not receiving AD and/or being readmitted), 47.9% qualified as successfully reintegrated and 52.1% qualified as still in recovery.

Table 2. Prevalence of successful and unsuccessful community reintegration

Variable	%(N) or mean (SD)
Successful reintegration	47.90 (23)
Absolute discharge	70.80 (34)
Readmission to hospital	47.90 (23)
Time spent in the community before readmission (months)	8.25 (7.89)
Reason for readmission:	
Breach of review board conditions	52.20 (12)
Non-breach return	17.40 (4)
Hallucinations	13.00 (3)
Delusional	13.00 (3)
Client requested	8.70 (2)
Failure to maintain self/hygiene	8.70 (2)
Failure to keep clinic appointments	4.30 (1)
Steals/destroys property	4.30 (1)
Decreased socializing	13.00 (3)
Increased hostility	26.10 (6)
Certified	8.70 (2)
New Offence	13.00 (3)
New violent offence	8.70 (2)
Threats to harm others	13.00 (3)
Suicidal ideation/attempt	13.00 (3)

Strengths and Vulnerabilities

The women who had successfully reintegrated into the community were first compared with those women who were still in recovery to determine that the two groups did not differ significantly in terms of demographic and other background factors. As can be seen in Table 3, the two groups did not differ significantly on any of the demographic background variables, including socio-economic status, education, ethnicity, or family histories. Additionally, the successfully reintegrated women did not differ significantly from the women who were still in recovery on any of the psychiatric and forensic history variables measured (see Table 4).

The women who were still in recovery were more likely to have exhibited challenging behaviors at admission to the forensic hospital (e.g., bizarre behavior, aggressive behavior, hostility, or self-harm) than the women who successfully reintegrated into the community [88.0% vs. 30.4%, $\chi^2(1)=16.60$, $p<0.001$]. Conversely, successful reintegrators (60.9%) were more likely than those still in recovery (32%) to have been involved in programs outside of the hospital [$\chi^2(1)=4.02$, $p<0.05$]. With regard to treatment compliance (i.e., adherence to treatment requirements of their treatment team), the groups differed significantly on pharmacological treatment, with more successful reintegrators being more compliant

Table 3. Sociodemographic and family background characteristics of successful reintegrators ($n=23$) and those in recovery ($n=25$)

Variable	Successful [% (n) unless noted otherwise]	In recovery [% (n) unless noted otherwise]	P -value
Age at file review [mean (SD) years]	47.36 (11.03)	45.88 (11.47)	0.656
Ethnicity: Caucasian	60.90 (14)	80.00 (20)	0.145
Birthplace: Canada	56.50 (13)	60.90 (14)	0.765
Education: high school or more	68.20 (15)	70.80 (17)	0.845
Employed	13.60 (3)	12.00 (3)	1.000
If unemployed status			0.107
Welfare	20.00 (4)	47.60 (10)	
Disability pension	45.00 (9)	19.00 (4)	
Type of residence: private home/apartment	72.70 (16)	72.00 (18)	0.956
Living arrangements: alone	36.40 (8)	48.00 (12)	0.421
Ever married	60.90 (14)	52.00 (13)	0.536
Has a significant other	39.10 (9)	28.00 (7)	0.414
Marital status			0.382
Single	26.10 (6)	40.0 (10)	
Common law/married	26.10 (6)	20.00 (5)	
Separated/divorced	39.10 (9)	40.0 (10)	
Widowed	8.70 (2)	0.00 (0)	
Number of children (mean, SD)	1.43 (1.12)	1.44 (1.19)	0.988
Number of dependants (mean, SD) ^a	0.96 (1.07)	0.76 (1.01)	0.515
Family history of mental illness	52.40 (11)	63.60 (14)	0.455
Abuse history	63.60 (14)	66.70 (16)	0.829
Verbal/emotional	18.80 (3)	41.20 (7)	0.161
Physical	56.30 (9)	58.80 (10)	0.881
Sexual	68.80 (11)	58.80 (10)	0.554
Neglect	5.90 (1)	16.70 (3)	0.316

^aDependants are individuals that the patient is financially responsible for such as a child or elderly parent.

Table 4. Psychiatric and forensic history of successful reintegrators ($n=23$) and those in recovery ($n=25$)

Variable	Successful [% (n) unless noted otherwise]	In recovery [% (n) unless noted otherwise]	P -value
Age of onset ^a [mean (SD) years]	26.42 (12.62)	24.73 (10.66)	0.644
Axis I diagnoses at admission			
Schizophrenia spectrum disorder	78.30 (18)	60.00 (15)	0.173
Substance use disorder	17.40 (4)	16.00 (4)	1.000
Mood disorder	26.10 (6)	32.20 (8)	0.653
Borderline intelligence	8.00 (2)	0.00 (0)	0.490
Any Axis II diagnoses at admission ^b	34.80 (8)	40.00 (10)	0.709
Cluster A	0.00 (0)	4.00 (1)	1.000
Cluster B	21.70 (5)	32.00 (8)	0.424
Cluster C	13.00 (3)	4.00 (1)	0.338
History of suicide attempts	63.60 (14)	48.00 (12)	0.282
Substance abuse history	52.20 (12)	56.00 (14)	0.790
Age at first outpatient mental health contact [mean (SD) years]	25.93 (11.59)	32.58 (13.96)	0.188
Age at first in-patient mental health contact [mean (SD) years]	30.26 (13.34)	27.94 (12.16)	0.585
Previous psychiatric hospitalizations	82.60 (19)	79.2 (19)	1.000
Previous forensic hospitalizations	13.00 (3)	25.00 (6)	0.461
Previously found NCRMD	4.50 (1)	17.40 (4)	0.346
Previous unfit/involuntary decisions	9.10 (2)	21.70 (5)	0.414
Number of previous charges			0.680
None	56.50 (13)	44.00 (11)	
1–2	26.10 (6)	32.00 (8)	
3 or more	17.40 (4)	24.00 (6)	
Number of violent offence charges			0.226
None	37.50 (3)	46.20 (6)	
1–2	25.00 (2)	46.20 (6)	
3 or more	37.50 (3)	7.70 (1)	
Number of convictions			0.503
None	30.00 (3)	23.10 (3)	
1–2	30.00 (3)	53.80 (7)	
3 or more	40.00 (4)	23.10 (3)	
Number of violent convictions			0.099
None	37.50 (3)	50.00 (5)	
1–2	25.00 (2)	50.00 (5)	
3 or more	37.50 (3)	00.00 (0)	
Incarcerated as an adult	22.70 (5)	24.00 (6)	0.918

NCRMD, not criminally responsible on account of mental disorder.

^aAge of onset of mental illness.

^bBoth trait and full diagnosis are included.

than women who ultimately had not been as successful in their attempts to re-enter the community [78.3% vs. 48.0%; $\chi^2(1)=6.65$ $p<0.05$]. Similarly, with regard to psychological treatment (e.g., individual therapy, group therapy) the successful group (80.0%) was more likely to be compliant than the recovery group (45.5%), though this finding did not reach significance [$\chi^2(1)=4.08$, $p<0.10$]. The two groups did not differ in their insight with regard to mental illness ($p=0.698$), their need for medication ($p=0.227$), or substance abuse ($p=0.270$), but they did differ significantly in their insight into their interpersonal problems. Specifically, the recovery group (81.0%) was much more likely than the successful reintegrators (42.2%) to lack insight in this domain [$\chi^2(1)=6.35$, $p<0.05$]. Likewise, the groups did not differ with respect to the number of violent incidents they perpetrated while in the hospital, but did display differences with respect to incidents of verbal aggression, with more successful

reintegrators (73.9%) displaying none of this type of aggression, compared with 45.8% of those in recovery; however, this finding only approached significance [$\chi^2(1)=6.56$, $p<0.08$]. Table 5 displays results for protective factors and risk factors present at admission and during the participant's stay at the hospital.

More of the women who were successful reintegrators (90.5%) than the women still in recovery (59.1%) were being released to a stable supportive environment [$\chi^2(1)=5.56$, $p<0.05$]. There was also evidence of a trend indicating that successful reintegrators (85.7%) were more likely than those in recovery (56.5%) to be compliant with medication while on community release [$\chi^2(1)=4.85$, $p<0.06$]. Similarly, successful reintegrators were significantly more likely to be compliant with the recommendations of their treatment team than those in recovery [90.9% vs. 40.0%, $\chi^2(1)=13.14$, $p<0.001$]. A larger proportion of the women who succeeded compared with those who were still in recovery demonstrated prosocial attitudes [72.7% vs. 40.0%, $\chi^2(1)=5.07$, $p<0.05$] and engagement in prosocial activities [69.6% vs. 39.1%, $\chi^2(1)=4.29$, $p<0.05$]. By contrast, individuals who were still in recovery were substantially more likely to have continued to engage in antisocial activities [70.8% vs. 13.0%, $\chi^2(1)=16.05$, $p<0.001$]. As would be expected, successful individuals were more likely to associate with non-offending peers than those who were still in recovery [89.5% vs. 50.0%, $\chi^2(1)=6.89$, $p<0.01$], but interestingly there was no difference in associations with offending peers [$\chi^2(1)=0.63$, $p<0.50$]. Lastly, with regard to the START strength total scores, the successful group ($M=27.85$, $SD=8.07$) had higher scores than the unsuccessful group [$M=22.43$, $SD=7.86$; $t(45)=2.33$, $p<0.05$]. In contrast, the successful group ($M=10.15$, $SD=7.03$) had lower mean START vulnerability total scores than the unsuccessful group [$M=18.48$, $SD=7.79$; $t(45)=-3.83$, $p<0.001$]. Table 6 presents the results for group comparisons with regard to protective factors and risk factors present prior to release and while on CD in the community.

Psychometric Properties of the START

For this study the authors investigated the reliability of the START using inter-item reliability and inter-rater reliability. For both the vulnerability items and strength items, the inter-item reliability was good, with Cronbach's alphas of 0.88 and .89, respectively. MIC was used to assess item homogeneity. The vulnerability MIC was 0.28 and the strength MIC was 0.27, indicating that both scales reflect a one-dimensional scale. The inter-rater reliability for both the strength and vulnerability scale total scores was good ($N=8$; ICC = 0.62, and 0.68).

With regard to the predictive validity results, Table 7 contains the point-biserial correlations and the AUC values for START vulnerability and strength total scores for each outcome variable. All results were in the expected direction. The vulnerability total score correlated negatively with successful reintegration ($r_b=-0.50$, $p<0.001$), AD ($r_b=-0.42$, $p<0.01$), and positively with readmission in the time-frame ($r_{bp}=0.47$, $p<.001$). The strength total scores, on the other hand, correlated positively with AD ($r_{bp}=0.35$, $p<0.05$), successful reintegration ($r_b=0.33$, $p<0.05$), and negatively with readmission within our time-frame ($r_p=-0.29$, $p<0.05$).

Receiver operating characteristic analysis was then conducted on the three different outcome variables [with readmissions coded dichotomously as 'no' (0) and 'yes' (1)] using START vulnerability total scores as well as START strength total scores. First,

Table 5. Protective and risk factors present at admission and during forensic psychiatric hospital stay for successful reintegraters ($n=23$) and those in recovery ($n=25$)

Variable	Successful [% (n) unless noted otherwise]	In recovery [% (n) unless noted otherwise]	<i>P</i> -value
Age at offense [mean (SD) years]	37.74 (11.52)	36.28 (11.88)	0.668
Age at admission [mean (SD) years]	38.13 (11.24)	35.16 (10.89)	0.357
Most serious index offence			0.556
Murder/manslaughter	17.40 (4)	8.00 (2)	
Assault	52.20 (12)	44.00 (11)	
Robbery	4.30 (1)	0.00 (0)	
Other crimes against a person	13.00 (3)	32.00 (8)	
Arson/kidnapping	8.70 (2)	12.00 (3)	
Property crime	4.30 (1)	4.00 (1)	
Number of index offences [mean (SD)]	1.87 (0.85)	1.84 (1.14)	0.846
Under the influence at time of offence	22.70 (5)	18.80 (5)	0.876
Symptoms at admission	91.30 (21)	88.00 (22)	1.000
Behaviors at admission	30.40 (7)	88.00 (22)	0.000
Program involvement in the hospital	78.30 (18)	80.00 (20)	0.882
Program involvement in community	60.90 (14)	32.00 (8)	0.045
No program involvement	17.40 (4)	16.00 (4)	1.000
Education upgrading	39.10 (9)	32.00 (8)	0.606
Vocational upgrading	30.40 (7)	20.00 (5)	0.404
Biological treatment compliance			0.037
Largely compliant	78.30 (18)	48.00 (12)	
Compliant with supervision	21.70 (5)	32.00 (8)	
Non-compliant	0.00 (0)	20.00 (5)	
Psychological treatment compliance			0.095
Largely compliant	80.00 (12)	45.50 (5)	
Compliant with supervision	20.00 (3)	36.40 (4)	
Non compliant	0.00 (0)	18.20 (2)	
Overall treatment effectiveness			0.740
Effective	54.50 (12)	44.00 (11)	
Mixed	40.90 (9)	48.00 (12)	
Ineffective	4.50 (1)	8.00 (2)	
In contact with family	87.00 (20)	84.00 (21)	1.000
In contact with outside peers	52.20 (12)	40.00 (11)	0.571
Establish relationship with co-patient	43.50 (10)	32.00 (8)	0.412
No social network	4.30 (1)	16.00 (4)	0.346
Evidence of a therapeutic alliance	68.20 (15)	48.00 (12)	0.163
Insight into mental illness			0.698
Yes	34.80 (8)	24.00 (6)	
Intermittent	21.70 (5)	28.00 (7)	
No	43.50 (10)	39.10 (12)	
Insight into need for medication			0.227
Yes	54.50 (12)	32.00 (8)	
Intermittent	22.70 (5)	24.00 (6)	
No	22.70 (5)	44.00 (11)	
Insight into substance abuse			0.270
Yes	81.80 (9)	50.00 (6)	
Intermittent	9.10 (1)	25.00 (3)	
No	9.10 (1)	25.00 (3)	
Insight into interpersonal problems			0.038
Yes	35.30 (6)	14.30 (3)	
Intermittent	23.50 (4)	4.80 (1)	
No	41.20 (7)	81.00 (17)	
Incidents of violence			0.672
None	69.60 (16)	56.00 (14)	
At least one	21.70 (5)	24.00 (6)	

(Continues)

Table 5. (Continued)

Variable	Successful [% (<i>n</i>) unless noted otherwise]	In recovery [% (<i>n</i>) unless noted otherwise]	<i>P</i> -value
At least two	0.00 (0)	8.00 (2)	
Three or more	8.70 (2)	12.00 (3)	
Victim			
Employee/staff/security	50.00 (4)	50.00 (6)	1.000
Patient/resident	37.50 (3)	50.00 (6)	0.670
Self-harm	25.00 (2)	8.30 (1)	0.553
Incident of verbal aggression			0.075
None	73.90 (17)	45.80 (11)	
At least one	4.30 (1)	29.20 (7)	
At least two	8.570 (2)	4.20 (1)	
Three or more	13.00 (3)	20.80 (5)	
Victim			
Employee/staff/security	66.70 (4)	84.60 (11)	0.557
Patient/resident	83.30 (5)	50.00 (6)	0.316
At least one incident of property damage	4.30 (1)	12.00 (3)	0.610

strength total scores were used in the ROC analysis to predict successful reintegration, the absence of a readmission, and receiving an AD. The vulnerability scores were used to predict membership in the 'in recovery' group, the presence of at least one readmission, and no AD on file during the time-frame. For women who successfully reintegrated, both the strength and vulnerability total scores were significant (AUC=0.70, $p < 0.05$ and AUC=0.80, $p < .001$ respectively). Similarly, both the strength and vulnerability total scores significantly predicted non-readmission (AUC=0.67, $p < 0.05$ and AUC=0.78, $p < 0.001$ respectively). As with the other three outcome measures, both the strength and vulnerability total scores were significantly associated with the patient not receiving an AD (AUC=0.72, $p < 0.05$ and AUC=0.77, $p < 0.01$, respectively).

The logistic regression analysis could not be conducted due to collinearity between the two scales ($r = -0.80$). Thus, partial correlations were conducted to test the incremental validity of the strength scores. No evidence of unique variance attributed to the strength scores was found. The partial correlations with each of the outcomes examined were non-significant after controlling for the vulnerability scores: successful reintegration ($r = -0.14$, $p < 0.40$), readmission to hospital ($r = 0.17$, $p < 0.30$), and receiving an AD ($r = 0.01$, $p < 0.95$).

DISCUSSION

Of the 48 female forensic patients included in this study, the majority (70.8%) received an AD during the three-year follow-up period. Nearly half of the 48 women (47.9%) were readmitted to the FPH at some time following their CD to the community. It is important to note that these should not be characterized as 'failures' and reflects our use of the term 'still in recovery'. For instance, most of those women who were readmitted were returned to the hospital to receive additional or more intensive services than would be available in the community; the returns to hospital largely reflected proactive

Table 6. Protective and risk factors present at and during release for successful reintegraters ($n=23$) and those in recovery ($n=25$)

Variable	Successful [% (n) unless noted otherwise]	In recovery [% (n) unless noted otherwise]	<i>P</i> -value
Release consistent with medical advice	75.00 (15)	81.80 (18)	0.715
Time Spent in Hospital [mean (SD) months]	25.91 (27.85)	32.56 (54.16)	0.600
Employed	13.00 (3)	4.00 (1)	0.338
Primary source of income			0.790
None	4.50 (1)	0.00 (0)	
Employment	9.10 (2)	4.00 (1)	
Disability pension	50.00 (11)	60.00 (15)	
Personal savings	9.10 (2)	4.00 (1)	
Private/family support	18.20 (4)	20.00 (2)	
Income assistance	9.10 (2)	12.00 (3)	
Type of residence			0.124
Private home/apartment	59.10 (13)	76.00 (19)	
In-patient hospital or facility	4.50 (1)	0.00 (0)	
Supervised living arrangement	9.10 (2)	16.00 (4)	
Boarding/rooming hotel	9.10 (2)	8.00 (2)	
Residential treatment facility	18.20 (4)	0.00 (0)	
Witnessing community violence	4.80 (1)	4.50 (1)	1.000
Exposed to destabilizers	42.90 (9)	63.60 (14)	0.172
Neighborhood disadvantaged	0.00 (0)	4.50 (1)	1.000
Stable supportive environment	90.50 (19)	59.10 (13)	0.018
Living arrangement			0.279
Alone	27.30 (6)	36.00 (9)	
Spouse/common law	18.20 (4)	8.00 (2)	
Parents/relatives	13.60 (3)	32.00 (8)	
Co-residents	40.90 (9)	24.00 (6)	
Marital Status			0.564
Single	26.10 (6)	36.00 (9)	
Relationship/common law/married	26.10 (6)	20.00 (5)	
Separated/divorced	39.10 (9)	44.00 (11)	
Widowed	8.70 (2)	0.00 (0)	
Number of dependants [mean (SD)]	0.77 (1.02)	0.64 (1.00)	0.654
Associates with offending peers	4.80 (1)	11.80 (2)	0.577
Associates with non-offending peers	89.50 (17)	50.00 (9)	0.009
Experience a significant life event (yes)	31.30 (5)	20.80 (5)	0.456
Negative	66.70 (4)	80.00 (4)	1.000
Adherence to medication			0.058
Yes	85.70 (18)	56.50 (13)	
Intermittent	14.30 (3)	30.40 (7)	
No	0.00 (0)	14.30 (3)	
Engagement in antisocial activities	13.00 (3)	70.80 (17)	0.000
Engagement in prosocial activities	69.60 (16)	39.10 (9)	0.038
Attend meetings with case manager	86.40 (19)	76.00 (19)	0.470
Prosocial attitudes	72.70 (16)	40.00 (10)	0.024
Compliance with recommendations	90.90 (20)	40.00 (10)	0.000
Evidence of impulsivity	28.60 (6)	50.00 (12)	0.143
START strength total score [mean (SD)]	27.85 (8.07)	22.43 (7.86)	0.024
START vulnerability total score [mean (SD)]	10.15 (7.03)	18.48 (7.79)	0.000

management and prevention efforts on the part of treatment providers. For example, patients who exhibited hallucinations (13%) or delusions (13%) and who appeared to be decompensating (e.g., failure to maintain self-care=8.7%) and whose risk levels appeared to be increasing (e.g., suicidal ideation/attempt=13%; threats to others=13%; or increased hostility=26.1%). In fact, just 6.3% of the women were found to have

Table 7. The relationship between START total scores and positive and negative outcomes

Outcome variable	Vulnerability		Strength	
	<i>r</i>	AUC (95% CI)	<i>r</i>	AUC (95% CI)
Successful reintegration	-0.50***	0.80*** (0.68–0.92)	0.33*	0.70* (0.55–0.85)
Readmission	0.47***	0.78** (0.66–0.91)	-0.29*	0.67* (0.52–0.83)
Absolute discharge	-0.42**	0.77** (0.62–0.91)	0.35*	0.72** (0.57–0.87)

*** $p \leq 0.001$ (two-tailed); ** $p \leq 0.01$ (two-tailed); * $p \leq 0.05$ (two-tailed).

For correlations, the number of readmissions was used, and for Receiver operating characteristic analysis, dichotomous coding was used (readmission *y/n*).

committed any new offence over the duration of the study, and only 4.2% committed a new violent offence.

Successful reintegrators and the women who were still in recovery were defined using a combination of having never been readmitted to the hospital, and receiving an AD during the follow-up period. It should be noted that this method of operationalizing successful community reintegration has never been used before in the literature; therefore, these rates for successful community reintegration cannot easily be compared with previous findings. For this reason, rates of reoffending and readmission were reported in addition to rates of successful reintegration (as defined), for the purpose of making comparisons with previous findings. In total, 47.9% of the women qualified as having successfully reintegrated into the community after leaving the FPH, with the remaining 52.1% qualifying as still in recovery.

Compared with the relatively scarce body of literature on non-recidivism in female populations, similar rates to those previously reported from a general offender population (~78%; Freeman & Sandler, 2008) were found. Additionally, these rates are similar to the rates of successful community reintegration found among the female forensic patient population, which varies from 64% to 87% (Schaap, Lammers, & de Vogel, 2009; de Vogel & de Ruiter, 2005). Overall, the present findings are consistent with previous rates of successful community reintegration and readmissions, providing further evidence that the majority of female forensic psychiatric patients do not reoffend in the short-term (i.e. two to six years).

As anticipated, women who made successful returns to the community had significantly higher START strength total scores and lower START vulnerability scores than women who were still in recovery. Thus, successful reintegrators had more protective factors and fewer risk factors than participants who were classified as still being in recovery. There were some notable protective factors and risk factors uniquely related to successful reintegration. The successful reintegrators were more likely to have been involved in programs outside of the hospital and to have insight into their substance abuse problems. The two groups of women also differed in the extent to which they were compliant with both psychological and pharmacological interventions, with more successful women being more compliant than the women who were still in recovery. Similarly, successful reintegrators were more likely to remain compliant on their medications while on release than individuals who were still in recovery. Being engaged in the supervision process while on release was also found to be important, in that the successfully reintegrated women displayed more prosocial attitudes, engaged in more prosocial activities, and were more likely to be compliant with recommenda-

tions from the treatment teams than the women who were still in recovery. The study also provided support for the notion of resilience, as successfully integrated women had more non-offending peers in their network, but did not differ in terms of their associations with offending peers. A similar finding was reported for personality-disordered forensic outpatients (Bouman, de Ruiter, & Schene, 2010), who found that the protective function of participation in social institutions against reoffending remained, even when the patient also had network members with a criminal background.

When looking at risk factors, the authors found that participants who were still in recovery at the end of the study were more likely to have displayed severe behavioral symptoms at the time of their index admission (such as aggressive or bizarre behaviors), to be lacking insight into interpersonal problems, and to engage in more antisocial activities.

Thus, in line with Fergus and Zimmerman (2005) evidence was found that successful reintegration is facilitated by internal protective factors, or “assets” (e.g., prosocial attitudes, insight), in combination with external protective factors, or “resources” (e.g., program involvement, supervision support). Additionally, these findings also support a compensatory model of resilience (protective factors counteract effects of risk factors) in that the successful group had more protective factors and fewer risk factors than those still in recovery (Fergus & Zimmerman, 2005).

The study results revealed several interesting findings with regard to the relationship between START and patient recovery/successful community reintegration. Until now, no study has examined the predictive value of this measure with successful reintegration as an outcome variable. The START vulnerability total score was able to distinguish those women who were and were not successful in their efforts to return to the community. Similarly, the START strength total scores significantly predicted successful versus unsuccessful community reintegration. Likewise, both the vulnerability and strength total scores significantly predicted readmission status, in the three-year time-frame. Furthermore, both the vulnerability and strength total scores could distinguish those women who did or did not receive an AD in the follow-up time-frame. It should be noted that receiving an AD is a very strong indication of success in the community, in that the provincial review boards in Canada are mandated to maintain a patient under their supervision for as long as they are found to pose a significant threat to society. To sum up, both the strength and the vulnerability scales of the START showed predictive validity across multiple measures of success in the community.

Logistic regressions could not be conducted to investigate incremental validity, as the two scales were highly collinear. Partial correlations were then conducted, which are not as powerful as logistic regressions. No significant correlations were found between the strength total scores and successful reintegration, readmission, or receiving an AD. This finding is similar to previous results reported by Wilson and colleagues (2010), who found that both the strength and vulnerability scores were no longer significant when included in a logistic analysis. Similarly, a recent study by Braithwaite, Crocker, and Reyes (2010) could not perform a logistic regression due to high collinearity between the two scales, and thus they did not conduct any further mediation analyses. Recently, however, Desmarais and colleagues (unpublished) reported incremental validity of the START strength scores over the vulnerability scores for assessments of institutional aggression and violence in a forensic sample.

Furthermore, other studies on the SAPROF and the SAVRY have found evidence of incremental validity of protective factors in risk assessments (Lodewijks, de Ruiters, & Doreleijers, 2010; de Vries Robbé & de Vogel, 2010). Thus, further research is needed to assess whether protective factors improve the predictive validity of risk assessment measures. Moreover, it should be noted that although the present study did not find incremental validity of the strength scores over the vulnerability scores, that does not imply that these factors are not important from a risk management and treatment perspective. Including protective factors in psychological assessments can help prevent treatment nihilism and can provide targets for treatment teams to focus on for improvement, and also are essential for therapeutic assessment (Rashid & Ostermann, 2009).

The present findings should be considered with several limitations in mind. The present line of research was based on a retrospective file review methodology. Therefore, although this study did include a three-year follow up and is thus pseudo-prospective in nature, the data were collected retrospectively, which has a number of identifiable drawbacks. Firstly, varying degrees of information were available. Even in the typical instance where an abundance of information is contained within any one hospital clinical file, the general bias towards recording risk information may limit knowledge of particular strength factors related to the patients in this sample. Prospective designs utilizing triangulated data collection procedures in studies of this nature are needed (i.e., interviews with participants, collateral sources and accessing secondary data sources such as official reoffence records). Additionally, the varying degrees of information on file may have affected the inter-rater reliability (IRR) results, which were lower than previous research findings, which have generally been found to be excellent (ICC=0.81–0.87; Nicholls *et al.*, 2006; Wilson *et al.*, 2010). Secondly, although raters were not biased as to which group each participant would be allocated, due to the nature of the files it was not always possible to blind raters to the legal outcome for each patient. For example, patients' readmissions or ADs often are contained within a series of events or circumstances that may be mentioned repeatedly in the clinical files. It is quite possible that this knowledge may have resulted in rating bias, and further demonstrates the need for prospective designs. Thirdly, the small sample size calls for multi-site studies in order to alleviate the challenge of studying women in this population, which is often a small minority of forensic inpatients.

Despite these limitations, the present study is one of the first empirical investigations into the occurrence of, and factors in, successful community reintegration among female forensic psychiatric patients. The findings of this study provide some preliminary evidence for differences between forensic patients who are successful in the community and those who are not, in relation to risk and protective factors. Results revealed that successful patients had significantly fewer risk and more protective factors than as yet unsuccessful patients. The authors are currently continuing their investigation to explore the potential interaction between risk and protective factors that may be integral in the recovery process.

Even at this early stage, these findings may be of use by way of informing treatment providers about how to better prepare these patients to deal with periods of transition. Release from a psychiatric facility under CD conditions can be stress-inducing for many individuals undergoing this process, and may indeed be the catalyst for new, if not additional, life stressors to be dealt with and managed. Protective factors demonstrated evidence of predictive validity in terms of successful community reintegration, thus providing evidence for the use of strength-based risk assessments.

Until recently, clinical practice in forensic settings has been centered on a risk model, largely ignoring strengths and resilience factors in risk judgments. These findings indicate that strengths may be useful in such risk assessments, which are instrumental in informing mental health professionals how patients will cope with their release and the necessary resources and supports that need to be put in place. Specifically, the START provides clinical practitioners with a useful tool that can help to predict success upon release through identifying gaps in services, supports, and skills as well as avenues for fostering success. Similarly, identifying additional protective factors that are predictive of success in the community can help to enhance risk assessment tools and make them more effective in clinical practice. The findings of this study suggest that a balanced evaluation of clients' strengths and vulnerabilities can help patients and their direct care providers to prepare for a successful transition to the community.

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