

This article was downloaded by: [University of Cape Town Libraries]

On: 12 February 2014, At: 04:30

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



## AIDS Care: Psychological and Socio-medical Aspects of AIDS/HIV

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/caic20>

### Post-traumatic stress disorder among recently diagnosed patients with HIV/AIDS in South Africa

B. O. Olley<sup>a b</sup>, M. D. Zeier<sup>c</sup>, S. Seedat Mb ChB Fc Psych (S.A.)<sup>a</sup> & D. J. Stein<sup>a</sup>

<sup>a</sup> MRC Unit on Anxiety Disorders, Department of Psychiatry, University of Stellenbosch, Cape Town, South Africa

<sup>b</sup> Department of Psychology, Faculty of the Social Sciences, University of Ibadan, Nigeria

<sup>c</sup> Infectious Disease Clinic, Department of Internal Medicine, Tygerberg Hospital, Cape Town, South Africa

Published online: 18 Jan 2007.

To cite this article: B. O. Olley, M. D. Zeier, S. Seedat Mb ChB Fc Psych (S.A.) & D. J. Stein (2005) Post-traumatic stress disorder among recently diagnosed patients with HIV/AIDS in South Africa, *AIDS Care: Psychological and Socio-medical Aspects of AIDS/HIV*, 17:5, 550-557, DOI: [10.1080/09540120412331319741](https://doi.org/10.1080/09540120412331319741)

To link to this article: <http://dx.doi.org/10.1080/09540120412331319741>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing,

systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

## Post-traumatic stress disorder among recently diagnosed patients with HIV/AIDS in South Africa

B. O. OLLEY<sup>1,2</sup>, M. D. ZEIER<sup>3</sup>, S. SEEDAT<sup>1</sup>, & D. J. STEIN<sup>1</sup>

<sup>1</sup>MRC Unit on Anxiety Disorders, Department of Psychiatry, University of Stellenbosch, Cape Town, South Africa, <sup>2</sup>Department of Psychology, Faculty of the Social Sciences, University of Ibadan, Nigeria, and <sup>3</sup>Infectious Disease Clinic, Department of Internal Medicine, Tygerberg Hospital, Cape Town, South Africa

### Abstract

This study examined the prevalence of and factors associated with post-traumatic stress disorder in recently diagnosed HIV/AIDS patients in South Africa. One hundred and forty-nine (44 male, 105 female) recently diagnosed HIV/AIDS patients (mean duration since diagnosis = 5.8 months, SD = 4.1) were evaluated. Subjects were assessed using the MINI International Neuropsychiatric Interview (MINI), the Carver Brief COPE coping scale and the Sheehan Disability Scale. In addition, previous exposures to trauma and past risk behaviours were assessed. Twenty-two patients (14.8%) met criteria for PTSD. Current psychiatric conditions more likely to be associated with PTSD included major depressive disorder (29% in PTSD patients versus 7% in non-PTSD patients,  $p=0.004$ ), suicidality (54% versus 11%,  $p=0.001$ ) and social anxiety disorder (40% versus 13%,  $p=0.04$ ). Further patients with PTSD reported significantly more work impairment and demonstrated a trend towards higher usage of alcohol as a means of coping. Discriminant function analysis indicated that female gender and a history of sexual violation in the past year were significantly associated with a diagnosis of PTSD. Patients whose PTSD was a direct result of an HIV/AIDS diagnosis (8/22) did not differ from other patients with PTSD on demographic or clinical features. In the South African context, PTSD is not an uncommon disorder in patients with HIV/AIDS. In some cases, PTSD is secondary to the diagnosis of HIV/AIDS but in most cases it is seen after other traumas, with sexual violation and intimate partner violence in women being particularly important.

### Introduction

Recent reports have demonstrated that post-traumatic stress disorder (PTSD) is one of the most prevalent psychiatric disorders in people with HIV/AIDS (Kelly et al., 1998; Martinez et al., 2002). Prevalence rates of PTSD in HIV/AIDS have ranged from 30% to 64% (Botha, 1996; Kelly et al., 1998; Martinez et al., 2002); rates that are significantly higher than those found in the general population (Carey et al., 2003; Emsley et al., 2003). The nature of this relationship, including the predictors of PTSD, therefore deserves closer examination.

---

Correspondence: S. Seedat, Mb ChB, FC Psych (S.A.), MRC Unit on Anxiety Disorders, Department of Psychiatry, University of Stellenbosch, PO Box 19063, Tygerberg 7505, Cape Town, South Africa. Tel: +27 21 938 9374. Fax: +27 21 933 5790. E-mail: sseedat@sun.ac.za

PTSD may be particularly relevant to HIV/AIDS because of the traumatic impact of being infected. Kelly et al. (1998), for example, found that in 61 HIV-positive homosexual/bisexual men, 30% met criteria for PTSD associated with a diagnosis of HIV infection, with 60.9% of cases of PTSD arising within six months of diagnosis. On receiving a diagnosis of HIV/AIDS, infected individuals may experience recurrent, intrusive thoughts or dreams of illness and death and may try to avoid people, activities and places that serve as reminders of the illness (Acierno et al., 1997; Breslau et al., 1991).

Nevertheless, other kinds of traumatic experience are also important precursors of PTSD in HIV/AIDS patients. Thus, in a study that examined the clinical and social correlates of PTSD in 47 HIV-positive women, a mean of 12 traumatic life events was reported (Martinez et al., 2002). PTSD severity was significantly related to the number of life events experienced and perceived social support from friends. Similarly, studies that show a high prevalence of previous traumatic life events such as history of sexual abuse (Borimo et al., 1997) or physical assault (He et al., 1998) among persons who become HIV-positive indicate that PTSD may precede HIV infection.

There is some evidence that PTSD in HIV/AIDS patients may be associated with an increased risk for engaging in risky sexual behaviours. Thus, Hutton et al. (2001) found that among women prisoners there was a 15% rate of PTSD, and this was associated with unprotected anal sex and prostitution. PTSD may also be particularly relevant in HIV/AIDS because of its link to disease progression. Kimmerling et al. (1999) noted that in a sample of 67 African American HIV-positive women, 35% met criteria for PTSD and those with PTSD had lower CD4 to CD8 ratios at one-year follow-up than those who did not after controlling for immune status at baseline. However, the authors did not correct CD4/CD8 ratios for time of infection and/or treatment history.

Much of the work on psychopathology in HIV/AIDS has taken place in the developed world. However, a previous study in South Africa similarly documented a 45% prevalence of PTSD in 24 asymptomatic HIV-positive patients who had been HIV-positive for six months or less (Botha, 1996). In the present study, we examined the prevalence of PTSD in recently diagnosed patients attending a clinic in Cape Town, South Africa. In addition, we examined the association of a PTSD diagnosis with other comorbid diagnoses, past stressful life events, risky sexual behaviours and patterns of coping.

## Methods

### *Site and participants*

Participants for this study comprised 149 recently diagnosed HIV patients (mean time since diagnosis = 5.8 months, SD = 4.1) attending an outpatient Infectious Diseases Clinic of the Department of Internal Medicine at Tygerberg Hospital, Cape Town. Inclusion criteria were: age 18–60 years, recently diagnosed (<1 year) HIV infection, no diagnosable neurological disorder and willing to provide written, informed consent. The hospital is one of two major tertiary health facilities in the Western Cape and receives referrals from surrounding community health centres as well as medical and obstetric/gynaecology clinics at Tygerberg Hospital.

### *Procedure*

The study was approved by the ethics committee of the University of Stellenbosch, Cape Town. All consecutive patients were first seen by their treating physicians. Patients

were then interviewed by researchers trained in the use of the Mini International Neuropsychiatric Interview (MINI) (Sheehan et al., 1998). Depending on the language preference of participants, either the English version or translated Xhosa version was used.

### Measures

*Demographic and health characteristics.* Demographic information comprised age, gender, marital status, home language, years of education, religion and employment status. A brief questionnaire, which also doubled as a referral form, was used to collect clinical information from the treating physicians. Parameters included concomitant medications, clinical HIV staging (broadly defined as asymptomatic or symptomatic; CDC, 1998), CD4 count and CD8 count.

*Psychiatric diagnoses.* Post-traumatic stress disorder (PTSD) as well as other psychiatric diagnoses were assessed with the MINI International Neuropsychiatric Interview (MINI; Sheehan et al., 1998), a brief structured diagnostic interview for major psychiatric disorders. Results of studies comparing the MINI with the Structured Clinical Interview for DSM-III-R (SCID), Composite International Diagnostic Interview (CIDI), Diagnostic Interview Schedule (DIS) and Present Status Examination (PSE) show that the MINI has acceptably high reliability and validity scores (Sheehan et al., 1998).

*Stressful life events.* Negative life events were measured using a modified (Swartz et al., 1983), 42-item clinician-administered checklist that inquires about the number of life events (positive and negative) as well as the degree of impact (on a score of 0 to 2) associated with these events (Kaminer et al., 2001).

*Social support.* This three-item scale developed for the study measures the degree to which patients with HIV feel supported by family members, friends and partners/spouses, respectively.

*Disability.* Disability was assessed with the Sheehan Disability Scale (SDS; Sheehan, 1983), a patient-rated, three-item measure that uses Likert scales for assessing impairment in the domains of work, family and social life, with higher scores indicating greater impairment and disability.

*Coping styles.* Coping responses to HIV infection were assessed with the abridged version of the COPE, called Brief COPE (Carver, 1997). Brief COPE is a 28-item, 14-scale questionnaire with items such as active coping, planning, positive reframing, acceptance, humour, turning to religion, venting of emotions, mental disengagement, denial, substance use, behavioural disengagement and emotional support. Each scale consists of two items. Subjects are required to respond on a four-point Likert scale for each item: 1 = 'I did not do this at all' to 4 = 'I did this a lot'. Carver (1997) has suggested a modification of this scale to meet individual research objectives. For the purpose of this study, an exploratory factor analysis was undertaken to identify the coping strategies in this population. A principal components analysis with varimax rotation yielded five factors: active/planning, emotional venting, denial, social support and substance abuse. The goodness-of-fit chi-square statistic

was 47.69 ( $df = 146$ ,  $p > 0.003$ ), suggesting that the five-factor model provided an adequate fit. The number of items for each of the five factors and the internal consistency were as follows: active/planning ( $n = 6$ )  $r = 0.74$ ; emotional venting ( $n = 4$ )  $r = 0.61$ ; denial ( $n = 7$ ),  $r = 0.84$ , social support ( $n = 3$ ),  $r = 0.59$ ; and substance abuse ( $n = 2$ ). All loading was above the acceptable eigen value of 0.4 (Tabachnick & Eidell, 1983) and accounted for 58% of the total variance.

*Sexual risk behaviour.* A sexual risk behaviour scale was also administered. This is a 20-item interviewer rated measure adapted from the work of Kelly et al. (1992) and McKinnon et al. (1993). Subjects were asked about their sexual activities in both the preceding month and 12 months prior to the study. Questions included: 'Have you used a condom at last sex?'; 'had sex with a partner who used intravenous drugs?'; 'had sex after using alcohol heavily or other drugs?'; 'had sex with a partner known for less than one day?'. For the purpose of this analysis, unprotected sex was measured as non-usage of a condom in the last sexual encounter. As this is an interviewer-administered measure, it may provide an underestimate of unsafe sexual behaviour.

#### *Data analysis*

The primary measure of interest in this study was the presence or absence of PTSD. Independent variables were derived from: (1) sociodemographic characteristics and medical status, e.g., gender, age, years of education, (2) stressful life events and social support, and (3) disability, coping styles and risky sexual behaviours. Group comparisons for patients with and without PTSD were undertaken using chi-square tests for categorical variables and student's *t*-tests for continuous variables. Multivariate analysis (discriminant function analysis) was used to investigate the factors that discriminate for a positive history of PTSD. Statistical significance was set at the level of  $p < 0.01$  (two-tailed). Data were computed using SPSS software, version 10 for Windows.

## **Results**

### *Prevalence of PTSD*

Twenty-two patients (14.8%) met criteria for current PTSD. In eight patients (36%) the index trauma was knowledge of the diagnosis of HIV/AIDS, while in other patients it comprised events such as rape ( $n = 5$ , 23%), robbery or assault ( $n = 3$ , 14%), intimate partner violence ( $n = 2$ , 9%), serious accidents ( $n = 2$ , 9%) and the loss of a loved one ( $n = 2$ , 9%). See Table I.

### *PTSD, demographic factors and medical status*

Twenty of 22 patients in the PTSD group were female, significantly more than in the non-PTSD group. There were no significant differences between PTSD and non-PTSD groups on other demographic features. There were also no significant differences in clinical HIV staging (asymptomatic/symptomatic) and CD4/CD8 counts. In the sample as a whole, the majority were asymptomatic, with an average CD4 lymphocyte count of 346.32 ( $SD = 236.21$ ) and CD8 lymphocyte count of 989.95 ( $SD = 554.41$ ). See Table I.

Table I. Demographic and clinical characteristics of HIV-positive patients with and without PTSD.

Variable	HIV/ PTSD + (n=22)	HIV/ PTSD - (n=127)
Mean age	27.6 (SD =6.7)	30.3 (SD =6.9)
Years of education	9.3 (SD =3.6)	9.6 (SD =3.2)
Gender (%)*		
Male	9	33
Female	91	67
Marital status (%)		
Single	63	76.5
Married	37	23.5
Unemployment (%)	86.3	69.3
Language (%)		
Afrikaans	30	36.4
Xhosa	58.3	59.1
Other	11.7	4.5
Mean duration of infection (months)	6.2 (SD =4.6)	5.7 (SD =4.1)
Mean CD4 count	397.0 (SD =294.9)	328.9 (SD =224.8)
Mean CD8 count	869.4 (SD =523.4)	969.1 (SD =528.4)
Mean number of current comorbid disorders on MINI*	1.5 (SD =1.5)	0.8 (SD =1.2)
Mean Sheehan Disability Scale score		
Total score	4.1 (SD =4.1)	2.5 (SD =3.9)
Work*	1.4 (SD =1.7)	0.7 (SD =1.3)
Social	1.4 (SD =1.5)	0.9 (SD =1.5)
Family	1.4 (SD =1.4)	0.8 (SD =1.4)

\* $p < 0.05$  univariate analyses.

### PTSD and comorbid psychiatric diagnoses

Current psychiatric diagnoses were compared in patients with and without PTSD. There were significant differences between the groups in the rates of major depression: 29% in HIV/PTSD patients versus 7% in HIV/non-PTSD patients ( $\chi^2 = 12.58$ ,  $p = 0.004$ ); suicidality, 54% versus 11% ( $\chi^2 = 17.28$ ,  $p = 0.001$ ); and social anxiety disorder, 40% versus 13% ( $\chi^2 = 5.42$ ,  $p = 0.04$ ). See Table II.

### PTSD, stressful negative life events and social support

There were no significant differences in either the total number or impact of negative stressful life events experienced by patients with and without PTSD. There were also no significant differences in perceived levels of social support between the groups.

Table II. Variables and standardized coefficients (discriminant function analysis).

Variables	Standardized coefficient
Coerced or raped	0.67
Gender	0.56
Work impairment	0.45
Using substance to cope	0.40
Current depression	0.31
Past depression	0.09



*PTSD, disability, coping and risky sexual behaviour*

Disability based on impairment in the domains of work, family and social life was assessed and compared in those with and without PTSD. PTSD patients reported significantly more work impairment ( $t=2.07$ ,  $p=0.04$ ) and were more likely to use substances to cope ( $p=0.05$ ) than non-PTSD patients. Nineteen (86%) of the 22 PTSD patients compared with 83 (65%) of the non-PTSD patients had not used a condom in their last sexual encounter, but the difference was not statistically significant. Similarly, no significant differences were observed in other sexual risk behaviours between the groups.

*PTSD secondary to HIV/AIDS*

Patients whose PTSD was directly related to an HIV/AIDS diagnosis (8/22) did not differ significantly from other PTSD patients on demographic or clinical features.

*Predictors of PTSD diagnosis*

We examined those variables that best discriminated the presence or absence of PTSD in patients, using discriminant function analysis. Independent predictor variables (gender, sexual coercion/rape, current depression, past depression, work impairment and substance use as a means of coping) were entered simultaneously into the model. A statistically significant function was detected which correctly classified 98% of cases (chi-square = 14.78, Wilk's Lambda = 0.902, canonical correlation = 0.31,  $p=0.001$ ). Being female and being sexually violated in the year prior to the study significantly correlated with this function.

**Discussion**

We investigated the prevalence and correlates of PTSD in a population of recently diagnosed HIV/AIDS patients in South Africa. PTSD was found in 14.8% and appeared secondary both to the diagnosis of HIV/AIDS and to a range of other traumas. This prevalence is greater than prevalence rates of 4.6–9.2% (Acierno et al., 1997; Borimo et al., 1997; Breslau et al., 1991; Carey et al., 2003; Emsley et al., 2003) in the general population, but lower than rates of 30.2% (Martinez et al., 2002) to 64% (Kelly et al., 1998) previously reported among HIV-infected persons in both local and international studies. Given the relatively small number of participants in the latter mentioned studies, these rates may not be generalizable to other HIV-infected populations.

In view of the relative lack of clarity about the relationship between HIV/AIDS and PTSD, we examined the association between demographic and clinical factors and this diagnosis. PTSD was significantly associated with major depression, suicidality and social anxiety disorder in newly diagnosed HIV patients. The association between PTSD and major depression is consistent with previous studies of PTSD in the general population (Acierno et al., 1997; Borimo et al., 1997; Breslau et al., 1991; Carey et al., 2003; Emsley et al., 2003) and among HIV-positive populations (Botha, 1996; Kelly et al., 1998; Martinez et al., 2002). PTSD patients were also more likely to report suicidality, in line with previous findings on PTSD. However, the design of the study did not allow for examination of the temporal course of these relationships.

Female gender and sexual violation were significant predictors of PTSD. Further, patients with PTSD reported significantly more work impairment and demonstrated a



trend toward higher usage of alcohol as a means of coping. These findings are consistent with previous work on PTSD (Hutton et al., 2001) and suggest that many features of PTSD in HIV/AIDS are similar to those reported in PTSD patients in general. Indeed, there were no differences in demographic and clinical features between patients with PTSD secondary to the diagnosis of HIV/AIDS and other types of trauma. We did not confirm previous findings of a relationship between PTSD and unprotected sex in HIV patients (Hutton et al., 2001) or between PTSD and lower immune status.

Several limitations are worth noting. The sexual risk behaviour measure in the study is an interviewer-administered questionnaire that may provide an underestimate of unsafe sexual practices compared with self-rated measures that may be more reliable in eliciting information on sexual behaviour (Kelly et al., 1992). In addition, sexuality (e.g., sexual orientation, sex workers, sexual abuse) and its relationship to non-HIV stressors was not adequately explored. Thus, we were not able to assess the role of sexual behaviour in infection and trauma or the extent to which HIV infection may have been a consequence of traumas such as rape and intimate partner violence in the sample.

None of our PTSD patients were receiving psychotropic or antiretroviral drugs at the time of study. Limited access to antiretrovirals (which until recently was the expressed policy of the South African government) may in itself have posed a significant HIV-related stressor, although this was not explored as a factor here. With regards to psychotropic medication use, a similar pattern was reported by Kelly et al. (1998), where 75% of HIV-PTSD patients were not on any psychiatric treatment. This underscores the importance of referral of HIV patients for psychiatric assessment at both primary and secondary care levels. We recommend that clinicians include an evaluation of PTSD and trauma in all HIV/AIDS patients. It is particularly important to be aware of the possibility of PTSD in women, and in those subjected to sexual violation or intimate partner violence. Furthermore, PTSD should be considered as a possible risk factor for suicidality 'and' substance abuse in this population.

### Acknowledgements

This work was supported by the Medical Research Council of South Africa and by a SAAVI Fellowship (Dr Olley).

### References

- Acierno, R., Resnick, H. S., & Kilpatrick, D. G. (1997). Health impact of interpersonal violence 1: Prevalence rates, case identification, and risk factors for sexual assault, physical assault, and domestic violence in men and women. *Behavioural Medicine*, 23, 53–63.
- Borimo, A. L., Kissinger, P., & Bessinger, R. (1997). History of sexual abuse among HIV-infected women. *International Journal of STD & AIDS*, 8, 332–335.
- Botha, K. F. (1996). Post-traumatic stress disorder and illness behaviour in HIV-positive patients. *Psychological Reports*, 79(3), 843–845.
- Breslau, N., Davis, G. C., Andreski, P., & Peterson, E. (1991). Traumatic events and post-traumatic stress disorder in an urban population of young adults. *Archives of General Psychiatry*, 48, 216–222.
- Carey, P. D., Stein, D. J., Zungu-Dirwayi, N., & Seedat, S. (2003). Trauma and post-traumatic stress disorder in an Urban Xhosa Primary Care population: Prevalence, comorbidity, and service use patterns. *Journal of Nervous and Mental Disease*, 191(4), 230–236.
- Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the brief COPE. *International Journal of Behavioural Medicine*, 4(1), 92–100.
- Centers for Disease and Prevention (1998). AIDS cases reported to the Centres for Disease Control through December 1998. *HIV/AIDS Surveillance Report*, 10(2), 1–43

- Emsley, R. A., Seedat, S., & Stein, D. J. (2003). Post-traumatic stress disorder and occupational disability in South African Security Force Members. *Journal of Nervous and Mental Disease, 191*(4), 237–241.
- He, H., Mccoy, H. V., Stevens, S. J., & Stark, M. J. (1998). Violence and HIV sexual risk behaviours among female sex partners of male drug users. *Women Health, 27*, 161–175.
- Hutton, H. E., Treisman, G. J., Hunt, W. R., Fishman, M., Kendig, N., Swetz, A., & Lyketsos, C. G. (2001). HIV risk behaviours and their relationship to post-traumatic stress disorder among women prisoners. *Psychiatric Services, 52*(1), 508–513.
- Kaminer, D. K., Stein, D. J., Mbanga, I., & Zungu-Dirwayi, N. (2001). The Truth and Reconciliation Commission in South Africa: Relations to psychiatric status and forgiveness among survivors of human rights abuse. *British Journal of Psychiatry, 178*, 373–377.
- Kelly, B., Raphael, B., Judd, F., Kernutt, G., Burnett, P., & Burrows, G. (1998). Post-traumatic stress disorder in response to HIV infection. *General Hospital Psychiatry, 20*, 345–352.
- Kelly, J. A., Murphy, D. A., Bahr, R., Brasfield, T. L., Davis, D. R., Hauth, A. C., Morgan, M. G., Stevenson, L. Y., & Eilers, M. K. (1992). AIDS/HIV risk behavior among the chronic mentally ill. *American Journal of Psychiatry, 149*, 886–889.
- Kimmerling, R., Armistead, L., & Forehand, R. (1999). Victimization experiences and HIV infection in women: Associations with serostatus, psychological symptoms, and health status. *Journal of Traumatic Stress, 12*(1), 41–58.
- Martinez, A., Israelski, D., Walker, C., & Koopman, C. (2002). Post-traumatic stress disorder in women attending human immuno-deficiency virus outpatient clinics. *AIDS patient care and STDs, 16*(6), 283–291.
- McKinnon, K., Cournos, F., Meyer-Bahlburg, H. F. L., Guido, J. R., Caraballo, L. R., Margoshes, E. S., Herman, R., Gruen, R. S., & Exner, T. M. (1993). Reliability of sexual behavior interviews with psychiatric patients. *American Journal of Psychiatry, 150*(6), 972–974.
- Sheehan, D. V. (1983). *The anxiety disease*. New York: Scribners.
- Sheehan, D. V., Lecrubier, Y., Hairnet-Sheehan, K., et al. (1998). The MINI International Neuropsychiatric Interview (MINI): The development and validation of a structured diagnostic psychiatric interview. *Journal of Clinical Psychiatry, 59*(suppl. 20), 22–38.
- Swartz, L., Eik, R., Teggin, A. F., & Gillis, L. S. (1983). Life events in Xhosa in Cape Town. *Journal of Psychosomatic Research, 27*(3), 223–231.
- Tabachnick, B., & Fidell, L. S. (1983). *Using multivariate statistics*. New York: Harper and Row.