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Concurrent Validity and Normative Data of the Depression Hopelessness and Suicide Screening Form with Women Offenders

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Concurrent Validity and Normative Data of the Depression Hopelessness and Suicide Screening Form with Women Offenders

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Executive Summary

Key words: *Depression, Hopelessness, Suicide, Women Offenders*

The purpose of this study was to examine the concurrent validity and establish a normative range for scores on the Depression Hopelessness and Suicide Screening Form (DHS; Mills & Kroner, 2003) among federally incarcerated women offenders.

The DHS was originally developed on successive samples of federal male offenders to screen for the presence of depression (Depression Scale) and hopelessness (Hopelessness Scale) as well as to gather information on suicide related risk factors (Critical Items). The DHS has been well validated among male offenders but less so among women offenders. Thus far a single study on women offenders using the DHS has been conducted on women admissions to a county jail in the United States (Stewart, 2007).

The study examined data collected from two samples of federally incarcerated women offenders. The first sample of 100 offenders was comprised of volunteers from Grand Valley Institution in the Ontario Region and from Joliette Institution in the Quebec Region who took part in a broader study of suicide and mental health/emotional functioning. The second sample of 122 offenders was drawn from admissions to three federal institutions (Edmonton Institution for Women, Grand Valley Institution, and Nova Institution) and collected as part of the Computerized Mental Health Intake Screening System (CoMHISS).

The findings confirmed the concurrent validity of the DHS. The measure produced strong correlations with well validated measures of depression, hopelessness and affective functioning. Further, the study found that the mean scores on the DHS for new recent admissions were greater than for women offenders who had been incarcerated for some time. This was not unexpected given the deterioration in emotional functioning associated with periods of significant adjustment, but it did confirm that these differences should be accommodated through different normative ranges. Finally, the study confirmed previous findings that women offenders report higher rates of endorsing suicide risk factors than do male offenders.

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Introduction

Suicide is a leading cause of death among those incarcerated in prisons and jails (Hayes, 1995). Risk factors associated with suicidal ideation include depression (Emery, Steer & Beck, 1981; Lester & Beck, 1977), hopelessness (Beck, Brown, & Steer, 1989; Holden & Kroner, 2003), prior suicide attempts (Cole, 1988; Dexter & Towl, 1995) and suicidal ideation (Fawcett et al., 1990). The rate of suicide in correctional facilities is generally higher than in the general population (Bland, Newman, Dyck, & Orn, 1990; Green, Andre, Kendall, Looman, & Polvi, 1992). This is true for both U.S. detention facilities (Hayes, 1995; Hayes & Rowan, 1988) Canadian prisons (Bland et al., 1990, Burtch & Ericson, 1979) and other countries (Smith, 1984). This makes it imperative to establish the early identification of suicide related risk factors among this group of individuals.

Incarcerated offenders experience a high prevalence of depression and depressive disorders (Bland et al., 1990; Reitzel & Harju, 2000). Using the Beck Depression Inventory (Beck & Steer, 1987) Boothby and Durham (1999) reported elevated scores in a large sample of offenders. In other research, a higher prevalence of major depressive episodes and anxiety/somatoform disorders differentiated offenders who attempted suicide from those who did not (Bland et al., 1990). Hopelessness is also an important factor in the assessment of risk for suicide (Beck et al., 1989; Beck, Steer, Kovacs & Garrison, 1985).

Screening for risk factors for suicide is a different task from diagnosing depression or measuring degree of severity of suicidal ideation or intent. Many studies of suicide risk are conducted on patients referred for psychiatric evaluation who are by definition in distress (Brown, Beck, Steer, & Grisham, 2000; Joiner et al., 2003). Screening for suicide risk factors among offenders who have higher rates of suicide but may not be clinically acute with respect to their symptomatology is clearly not the same task as determining the level of risk for suicide among clinically depressed patients, but the exercise is important and necessary.

The Depression Hopelessness and Suicide Screening Form (Mills & Kroner, 2003) was developed to screen for depression and hopelessness as well as gather information on suicide risk factors such as history of suicide attempts, previous diagnosis for depression, family members who have committed suicide, as well as suicidal ideation. The DHS has been shown to have good internal consistency, factor structure, and validity (Mills & Kroner, 2004). The DHS scales were

significantly related to institutional file information such as history of depression and history of psychiatric intervention as well as information from an intake interview such as recent psychiatric/ psychological intervention and number of prior suicide attempts. Mills, Reddon, and Kroner (2006) found strong correlations between the DHS Depression scale and the BDI-II (r = .77) and the DHS Hopelessness scale and the Beck Hopelessness Scale (r = .70) in a sample of male offenders. Other research has shown the DHS to generalize to a university student sample (Mills, Morgan, Reddon, Kroner and Steffan, 2010). In this sample, the DHS Depression scale was strongly related to the BDI, and the DHS Hopelessness scale was strongly related to the Beck Hopelessness Scale (BHS; Beck & Steer, 1988).

Perhaps the research most salient to the current study was conducted by Lisa Stewart (2007) who examined the results of the DHS among women admitted to a US County Jail. A significant majority of the 100 volunteer participants were Caucasian and single. Fifty-two percent had used drugs within the past 90 days. Seventy percent of the women reported receiving prior mental health treatment with 28% reporting a diagnosis of depression and 24% a diagnosis of bipolar disorder. A majority of women reported experiencing some form of childhood abuse (60%) and incidents of domestic violence (68%). The mean number of times the women had been placed in jail was 8.3 times suggesting the majority had ongoing conflict with the law.

Results from the administration of the DHS produced a mean score on the Depression Scale of 9.5 and a mean score on the Hopelessness Scale of 4.0. These means are significantly higher than those found among male offenders in the Mills and Kroner (2004) study. In addition to the administration of the DHS, the number of depressive symptoms as outlined in the DSM-IV-TR was identified through an interview and recorded and the Beck Scale for Suicide Ideation (SSI; Beck, 1991) was completed. The DHS Depression Scale was strongly correlated with the number of depressive symptoms (r = .71) while the Hopelessness Scale was only moderately related to the same symptoms (r = .42). The DHS Depression Scale was moderately and significantly related to the SSI (r = .31) and somewhat more strongly related than were the number of depression symptoms and the SSI (r = .25). A history of mental illness was correlated with both the DHS Depression scale (r = .47) and the number of reported depressive symptoms (r = .36). The DHS Depression scale was significantly correlated with a history of abuse (r = .30) and recent drug use (r = .30). The Depression scale score on the DHS was more strongly associated with depressive symptoms than were the number of depressive symptoms as obtained

through an interview (r = .14 and r = .18 respectively). The general finding was that the DHS was as strongly related to a history of mental illness as were the results of an interview-based assessment of depressive symptoms.

The purpose of this study is to examine the concurrent validity of the DHS among federally incarcerated women offenders through its association with well known and validated instruments such as the Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996) and the Beck Hopelessness Scale (BHS; Beck & Steer, 1988). The report will also provide guidelines for normative ranges for the scales that are components of the DHS to assist in interpretation of the results when it is used with women offenders.

Method

Participants

Sample 1

The data for the first sample were provided by 100 federally sentenced women incarcerated at Grand Valley Institution in the Ontario Region (n = 66) and Joliette Institution in the Quebec Region (n = 34). Racial composition of the sample was predominantly Caucasian (70%); 11% were Aboriginal. The average age of the participants was 37.7 years (SD = 10.9) with a range of 20 to 67 years. Twenty-seven women (27 %) reported a past psychiatric diagnosis with the most common being depression (n = 13). Twenty-seven women (27%) reported they were taking a psychotropic medication at the time of the study.

Sample 2

CSC has recently implemented a national assessment procedure to screen for mental health disorders among incoming federally sentenced offenders. The components of the assessment are two psychological tests: the BSI (Brief Symptom Inventory) and the DHS as well as the Paulhus Deception Scales. Data collected from the pen and paper administration of the CoMHISS comprised the second sample. These data came from three women's institutions: Edmonton Institution for Women in the Prairie Region (n = 46), Grand Valley Institution in the Ontario Region (n = 59), and Nova Institution in the Atlantic Region (n = 17). The average age of the women was 34.9 years (SD = 11.2) with a range from 19 to 63 years.

Procedure/Analytic Approach

Sample 1

Two research assistants were trained on the administration of a structured interview and the self-report inventories. Offenders were recruited through general awareness of the study in the institution (posters and inmate committee notification) as well as direct appeal by the researchers. All volunteers provided informed consent both in writing and verbally.

Sample 2

Descriptive statistics for the study measures are presented along with correlational analyses for comparative validity purposes. T-tests were used to compare the scale scores of the two samples. Standardized scores (T-scores) were calculated using the formula $10[X_i - M]/s] + 50$. Where X_i is the observed score, M is the scale mean and s is the standard deviation of the scale scores. This calculation results in a standardized score with a mean of 50 and a standard deviation of 10.

Measures/Material

Sample 1

Depression Hopelessness and Suicide Screening Form (DHS; Mills & Kroner, 2003). The DHS is a 39-item instrument developed to screen for depression, hopelessness, and suicide risk factors. The DHS is comprised of a Depression scale (17 items), a Hopelessness scale (10 items), and a Critical Item Checklist (12 items). All items are answered in a two-category agree/disagree format. The DHS has been shown to be as effective as interview or file review in identifying offenders with a history of suicide related behaviour in addition to accurately identifying offenders in distress (Mills & Kroner, 2005).

Brief Symptom Inventory (BSI; Derogatis, 1993). The BSI is a 53 item self-report, multidimensional measure of psychological distress. The scale was designed to assess for symptoms of psychological problems. The test is based on nine primary symptom dimensions; somatization, obsessive-compulsive, interpersonal-sensitivity, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. The items are scored on a 5 point scale from 0 (not at all distressed) to 4 (extremely distressed) (Aroian, Gianan, Levin, and Patsdaughter, 1995). The BSI provides separate norms for adult male and female psychiatric outpatients and inpatients as well as for non patients. The measure has demonstrated good internal consistency (α=.76 to .89) and reliability (Boulet & Boss, 1991).

Profile of Mood States (POMS; Lorr, McNair, Heuchert, & Droppleman, 2003). The Profile of Mood States (POMS) is a 65 item self-report measure of the participant's mood. Participants are asked to report their mood for three different time periods: in the past week, right

now, or a specified period indicated by filling in a blank space. Six mood factors can be identified and measured through the POMS: Tension-anxiety, Depression-Dejection, Anger-Hostility, Vigor-Activity, Fatigue-Inertia, and Confusion-Bewilderment. Research has shown the POMS to be internally consistent and have a stable factor structure (Norcross, Guadagnoli, & Prochaska, 2006).

Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996). The BDI-II is a 21-item, self-report questionnaire that assesses the severity of the symptoms of depression. Depressive symptoms on the BDI are rated from 0 to 3 in terms of severity. The BDI-II is a revision of the earlier BDI undertaken to be more consistent with DSM-IV criteria for major depression. Studies have confirmed the validity and reliability of the BDI (e.g., Beck, Steer, & Garbin, 1988; Gallagher, Nies, & Thompson, 1982; Lightfoot & Oliver, 1985; Oates-Johnson & DeCourville, 1999) and more recently the BDI-II (Whisman, Perez, & Ramel, 2000).

Beck Hopelessness Scale (BHS; Beck & Steer, 1988). The BHS is a self-report questionnaire that contains 20 true/false items assessing thoughts or feelings about the future. Stability of the BHS has been demonstrated through satisfactory test-retest reliability of the scale (Holden & Fekken, 1988). The BHS has been shown to be a valid measure within both prison (Power & Beveridge, 1990; cited in Biggam & Power, 1999) and general populations (Greene, 1981).

Sample 2

The data obtained from the CoMHISS for the second sample came from the DHS and the BSI instruments which are described above.

Results

Sample 1

The descriptive statistics of the study measures are reported in Table 1. Internal consistency of the scales, as represented by alpha reliabilities, is considered good to excellent across the measures employed. The internal reliabilities of the DHS Depression and Hopelessness scales were excellent and consistent with those of the Beck scales. The mean scores of the DHS Depression scale (M = 5.3) and the DHS Hopelessness scale (M = 1.9) were greater than the means from the male offender sample from which the scales were originally validated (M = 2.8 and M = 0.6) respectively.

The data collected in the first sample included the Beck inventories for depression (BDI-II; Beck, Steer, & Brown, 1996) and hopelessness (BHS; Beck & Steer, 1988). These two inventories have been used widely in both clinical and research settings and are considered valid indices of their respective constructs. The concurrent administration of these measures afforded the opportunity to examine how the DHS scales related to the Beck scales directly and how the DHS and Beck scales related comparatively to other measures of affect and mental health (i.e. Brief Symptom Inventory (BSI), Profile of Mood States (POMS)). Table 2 reports these correlations. The DHS Depression scale was more strongly associated with the BDI than the BHS and the DHS Hopelessness scale was more strongly associated with the BHS than the BDI. Generally, there were moderate to strong correlations between both the DHS and Beck scales and the measures of negative affect from the BSI and POMS with the strongest correlations found between these measures and similar depression related measures from the BSI (Depression) and POMS (Depression-Dejection). Table 2 shows that there were very similar relationships between the DHS and Beck scales and the BSI and POMS. For example, the DHS Depression scale and BDI correlated more strongly with the Somatization scale of the BSI than did either of the DHS Hopelessness and BHS scales. Similarly, smaller negative correlations between the Beck scales and the Vigor-Activity and Friendliness scales of the POMS were consistent with the same relationships the DHS scales had to these POMS measures.

Table 1

Descriptive Statistics of Study Measures for Sample 1 (n = 97-99)

	Mean	SD	Range	Alpha
DHS				
Depression	5.3	4.8	0-17	.90
Hopelessness	1.9	2.8	0-10	.90
Brief Symptom Inventory				
Somatization	.88	.86	0-3.3	.85
Obsessive Compulsive	1.2	1.0	0-4.0	.88
Interpersonal Sensitivity	1.0	1.0	0-4.0	.85
Depression	.92	.90	0-3.7	.88
Anxiety	.98	.91	0-3.3	.79
Hostility	.70	.91	0-4.0	.89
Phobic Anxiety	.90	1.4	0-9.4	.88
Paranoid Ideation	1.2	.90	0-3.8	.78
Psychoticism	1.1	1.5	0-12	.81
Profile of Mood States				
Tension Anxiety	12.2	7.5	2-36	.83
Depression-Dejection	15.5	12.7	0-56	.93
Anger-Hostility	10.8	10.6	0-48	.93
Vigor-Activity	16.6	7.3	1.32	.88
Fatigue	8.6	7.1	0-28	.92
Confusion	10.8	5.1	3-32	.74
Friendliness	17.9	4.9	7-28	.72
Beck Depression Inventory	15.8	11.5	0-46	.92
Beck Hopelessness Scale	4.5	3.6	1-17	.83

Table 2

Comparative Convergent and Discriminant Validities for Sample 1 (n = 90-91)

	DHS Scales		Beck Scales	
	Depression	Hopelessness	Depression	Hopelessness
DHS				
Depression	-	.79***	.77***	.66***
Hopelessness	-	-	.70***	.81***
Brief Symptom Inventory				
Somatization	.40***	.21	.43***	.14
Obsessive Compulsive	.65***	.53***	.64***	.41***
Interpersonal Sensitivity	.55***	.54***	.55***	.45***
Depression	.78***	.73***	.78***	.60***
Anxiety	.53***	.38***	.62***	.31**
Hostility	.53***	.52***	.55***	.44***
Phobic Anxiety	.48***	.22*	.31**	.17
Paranoid Ideation	.63***	.54***	.64***	.48***
Psychoticism	.71***	.64***	.45***	.56***
Profile of Mood States				
Tension Anxiety	.59***	.46***	.67***	.46***
Depression-Dejection	.71***	.68***	.77***	.60***
Anger-Hostility	.55***	.54***	.61***	.52***
Vigor-Activity	-.38***	-.31**	-.35**	-.20
Fatigue	.65***	.49***	.72***	.45***
Confusion	.56***	.50***	.52***	.44***
Friendliness	-.26*	-.27*	-.22*	-.34**

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Sample 2

The descriptive statistics for the data collected from the second sample at intake (CoMHISS) are reported in Table 3. In this sample, only the DHS and BSI data were available. On visual inspection, the mean for the DHS Depression scale appears to be higher in this sample than the mean from Sample 1, whereas there is a smaller difference in the DHS Hopelessness scale scores across Samples 1 and 2. The mean differences are tested for statistical significance later in this report. Internal consistency as measured by alpha reliabilities are good to excellent and are consistent with those found in Sample 1. As with Sample 1, correlations of the DHS Depression and Hopelessness scales were all significantly related to scales of the BSI (Table 3).

Table 3

Descriptive Statistics for Sample 2 Measures (n = 117 -120)

	Mean	SD	Range	Alpha	Correlations with DHS	
DHS					Depression	Hopelessness
Depression	7.7	4.2	0-16	.82	-	.72
Hopelessness	2.2	2.6	0-10	.84	.72	-
Brief Symptom Inventory						
Somatization	.91	0.9	0-3.7	.87	.51	.39
Obsessive Compulsive	1.5	1.1	0-4	.86	.62	.50
Interpersonal Sensitivity	1.3	1.1	0-4	.85	.60	.51
Depression	1.3	1.0	0-4	.85	.66	.58
Anxiety	1.3	1.0	0-4	.87	.63	.49
Hostility	.68	0.7	0-3.6	.80	.49	.40
Phobic Anxiety	.66	.85	0-3.2	.80	.52	.52
Paranoid Ideation	1.3	.98	0-3.8	.78	.59	.51
Psychoticism	1.2	.95	0-3.8	.73	.66	.61

Note. All correlations were at the $p < .001$ level

Suicide Risk Factors – The DHS Critical Items

In addition to the scales for depression and hopelessness, the DHS includes 12 items (critical items) relevant to suicide related behavior. These include items regarding past diagnosis of depression (lifetime prevalence), family members or close friends who have committed suicide, as well as prior incidents of self-harm and current thoughts of suicide. These items are presented in Table 4 along with the endorsement rates from the women in both Samples 1 and 2. In addition, the endorsement rates of male offenders on these items taken from the original validation sample are reported for comparison purposes. Table 4 indicates that there is little difference between the two women offender samples with the possible exception of more recent thoughts of self-harm in the Sample 1. Overall low endorsement rates do not permit any strong conclusions based on these findings. However, there is a clear trend for both of the women offender samples to endorse more of these critical items than the male offenders.

Table 4

Comparative Endorsement Rates (%) of the Critical Items

	Women Offenders: Sample 1 n = 99	Women Offenders: Sample 2 n = 120	Men Offenders Validation Study* n = 272
I have been diagnosed as being depressed in the past.	48	50	20
I have close friends or family members who have killed themselves.	31	36	13
Suicide is not an option for me. (-)	11	8	5
I have had serious thoughts of suicide in the past.	28	31	15
I have intentionally hurt myself.	31	25	10
If circumstances get too bad, suicide is always an option.	8	3	2
In the past I have attempted suicide.	28	24	16
I have attempted suicide more than once in the past.	24	18	9
I have attempted suicide in the past two years.	12	13	4
I have recently had thoughts of hurting myself.	11	3	1
Life is not worth living.	9	2	1
I have a plan to hurt myself.	3	0	0

Note: * Taken from Mills & Kroner (2003)

Comparisons between Sample 1 and Sample 2

Analyses were undertaken to determine if there were meaningful differences between the scores on the measures from Sample 1 (women offenders who had been incarcerated for a period of time) and Sample 2 (women offenders who were being initially admitted to federal custody). These results are reported in Table 5. As reported previously, the DHS scores for women offenders entering a county jail in the United States were markedly higher than those for male offenders in Canada. An important question is: Are these differences due to gender or to the time at which they were measured? A series of t-tests were undertaken to compare the scale scores of the DHS and BSI between the two samples. There were significant differences at the $p < .001$ level for the depression scales only. A smaller but significant difference was found on the BSI Anxiety scale. In general, the results seem to show that the two samples did not differ meaningfully in levels of hopelessness and other dimensions of mental health symptoms but there is a clear elevation in symptoms of depression at intake (Sample 2) compared to the later period of incarceration (Sample 1). Also important to note is that there were no meaningful differences between the two women offender samples in terms of prior suicidal behaviour or other critical items.

Table 5

Comparisons Between Sample 1 and Sample 2

	Sample 1 n = 93-97	Sample 2 n = 117-121		
	Mean	Mean	*t*	*p*
DHS				
Depression	5.3	7.7	3.6	***
Hopelessness	1.9	2.2	1.4	n.s.
Brief Symptom Inventory				
Somatization	.88	.91	.20	n.s.
Obsessive Compulsive	1.2	1.5	1.8	n.s.
Interpersonal Sensitivity	1.0	1.3	1.5	n.s.
Depression	.92	1.3	3.2	**
Anxiety	.98	1.3	2.3	*
Hostility	.70	.68	.20	n.s.
Phobic Anxiety	.90	.66	1.4	n.s.
Paranoid Ideation	1.2	1.3	1.5	n.s.
Psychoticism	1.1	1.2	.70	n.s.

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

The results of these comparisons suggest that the scores of the DHS Depression scale are greater at intake than after a period of incarceration. No significant differences were found for the DHS scale which measures hopelessness. Due to these findings, separate norms were calculated from the respective samples for the DHS Depression scale for use at intake and after a period of confinement. The norms for the Hopelessness scale are based upon the combined samples. These norms are reported in Table 6. Areas shaded in grey are more than one standard deviation above the mean.

Table 6

Interpretative Ranges of the DHS by T-Scores

Raw Score	DHS Depression		DHS Hopelessness
	At Intake	During Confinement	
17	72	74	
16	70	72	
15	67	70	
14	65	68	
13	63	66	
12	60	64	88
11	58	62	84
10	55	60	80
9	53	58	76
8	51	56	73
7	48	54	69
6	46	51	65
5	44	49	61
4	41	47	58
3	39	45	54
2	36	43	50
1	34	41	46
0	32	39	43

Discussion

The results of this study support the construct validity of the DHS with women offenders as has been done for men and further clarify the normative interpretative ranges for the scales. Construct validity of the DHS is supported by the relationship of the scales with well known and widely used instruments which measure the same constructs of depression and hopelessness. In addition, the comparative relationship of the DHS scales and the Beck scales with other measures of negative affect followed a very similar pattern indicating that the representation of depression and hopelessness as measured by the DHS scales was similar to those of the Beck scales.

Our studies' findings would also indicate that depressive symptomatology changes over time as the women adjust to incarceration. We attempted to identify the possible source of these differences in women offender norms by comparing them with male offenders as well as comparing the results for women offenders assessed at intake and those assessed after a period of incarceration. It would appear that women offenders endorse more depressive symptoms and cognitions of hopelessness than male offenders (Sample 1 of the women offenders as compared to a sample of incoming male offenders) and that women offenders at intake, who are undergoing the situational adjustment of acclimating to incarceration, are experiencing more depressive symptoms than women who have been incarcerated for a period of time. There appears therefore to be both a temporal as well as gender difference in the rates of endorsement of items on the DHS depression and hopelessness scales. These temporal differences on the depression scale are not found for other symptoms related to mental health functioning. However, even the elevated endorsement rates for federal women at the time of intake (Sample 2) were not as high as those for women who were admitted to a county jail in the United States. This difference may also be due to the situational stress associated with arrest and confinement which was closer to the time the DHS was administered in the county jail than it was when women responded to the DHS on the CoMHISS.

Interpretation of the DHS scales with women offenders should be undertaken in the context of knowing their previous suicide related behavior. Studies with male offenders show that offenders who have a history of suicide related behavior and are presently experiencing symptoms of depression and/or cognitions of hopelessness are also more likely to be experiencing suicide related thoughts (Mills & Kroner, 2008). It is important to highlight that

suicide related thoughts do not equate to suicidal intent, and that the findings were based upon offenders who were willing to admit to suicide related thoughts. Nonetheless, intervening with individuals who are likely to be experiencing suicide related thoughts is good clinical practice.

Conclusions

Our findings support the construct validity of the DHS scales with women offenders. The findings confirm that women offenders report more suicide related behaviours than do men offenders and they endorse more symptoms of depression and cognitions of hopelessness. Further, our findings indicate that more depressive symptoms are evident during the women's period of adjustment to incarceration which would suggest different normative ranges may be necessary to determine relative levels of depressive symptoms. Hopelessness cognitions do not appear to be similarly influenced by adjustment issues in the two samples that we examined. In keeping with previous research among male offenders, interpretation of the DHS depression and hopelessness scales should be undertaken within an ecological context, specifically with knowledge of the individual's history of suicide related behaviours.

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