Abuse History and Pathological Dissociation Among Israeli and American College Students: A Comparative Study

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ABSTRACT. This paper has three objectives: (1) to compare the abuse histories of American and Israeli college students, (2) to closely examine the different *types* of dissociative experiences among these students, and (3) to compare the dissociative experiences of American and Israeli college students. The US sample reported higher levels of abuse than the Israeli sample. The US and Israeli samples did not differ in overall level of dissociation but the US sample had higher rank-ordered scores for five kinds of dissociation: Flashbacks, Somatoform Dissociation, Persecutory Voices, Temporarily Dissociated Knowledge or Skills, and Be-

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ABUSE HISTORY AND PATHOLOGICAL DISSOCIATION AMONG ISRAELI AND AMERICAN COLLEGE STUDENTS: A COMPARATIVE STUDY

Child abuse is a considerable international problem, yet data about its prevalence in different countries are sparse. The prevalence of childhood sexual abuse in nonclinical North American samples suggests prevalence rates as high as 22.3% for childhood sexual abuse (Gorey & Leslie, 1997). The prevalence of childhood sexual abuse was similarly high in other countries [e.g., 13.14% (United Kingdom: Oaksford & Frude, 2001), 25% (Israel: Schein et al., 2000), and 25% (Spain: Lopez, Hernandez, & Carpintero, 1995)].

There has also been increased recognition of the role that culture may play in the nature and severity of psychopathology. For example, the last two editions of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association 1994; 2000) have attempted to identify cultural features of disorders. More specifically, there is increased recognition of the need to examine whether any given symptom is culture-specific (*emic*) or culturally universal (*etic*). Psychiatry has long been aware that dissociation appears in a variety of cultures, but often has culture-specific manifestations (e.g., amok, latah, pibloktoc, and berserker).

Several studies have examined the presence and severity of dissociation in different countries. A study of the Hebrew version of the Dissociative Experiences Scale (Somer, Dolgin, & Saadon, 2001) reported mean H-DES scores for non-clinical participants that were comparable to DES scores from nonclinical samples in the US, and H-DES scores that co-varied with clinical diagnosis. Persons with dissociative disorders had higher scores than persons with Posttraumatic Stress Disorder (PTSD) or Acute Stress Disorder. These findings using the H-DES are

consistent with similar work using the DES in the United States (Bernstein & Putnam, 1986). Barker-Collo (2001) found that DES scores of New Zealand college students were similar to those of students from the United States, Scotland, and the Netherlands. These studies examined mean group differences in *global* dissociation and did not report data about specific *types* of dissociative experiences.

Most research on dissociation with college students, has used the DES or the DES II (Carlson, 1997; Carlson & Putnam, 1993; Putnam et al., 1996). The DES is a well-established brief (28 items) screening measure with solid psychometric properties. Nevertheless, the DES probably does not assess the full spectrum of pathological dissociation. This brevity is in keeping with the intent of its authors to create a screening instrument for dissociation. While the 8-item DES-Taxon subscale (Waller, Putnam, & Carlson, 1996) provides greater clarity about pathological dissociation, it does not provide a rich description of those experiences.

This paper reports findings from two exploratory studies that used the Multidimensional Inventory of Dissociation 4.0 (Dell, 2006) to examine the type and severity of dissociation among college students. This paper has three objectives: (1) to compare the abuse histories of American and Israeli college students, (2) to examine the different *types* of dissociative experiences among college students, and (3) to compare the dissociative experiences of American and Israeli college students.

METHOD

Research Participants

The combined sample of American and Israeli college students included 142 persons. There were 68 United States students (13 men and 55 women), and 74 Israeli students (11 men and 63 women). The samples did not differ in gender composition, but the US sample was significantly younger $t(125.69) = 5.53$, $p < .0005$ [US: $M = 20.9$ (3.7) Israeli: $M = 25.4$ (5.8)].

MEASURES

Traumatic Experiences Questionnaire (TEQ[1])

The TEQ (Nijenhuis, Spinhoven, van Dyck, van der Hart, & Vanderlinden, 1998) is a 25-item measure that assesses a wide range of trauma.

The first ten items assess the presence/absence of a wide variety of stresses and trauma (e.g., having to look after parents and/or siblings as a child). The last 15 items assess the presence/absence of *abusive* experiences. The TEQ yields an overall index of number of traumas experienced, and weighted composite scores of five types of abuse (i.e., Emotional Neglect, Emotional Abuse, Physical Abuse, Sexual Harassment, and Sexual Abuse). Three items load onto each composite scale with total scores for each determined by the relationship with the abuser, the age at which the abuse occurred, and subjective ratings of the impact of the experience. The TEQ has good psychometric properties (Nijenhuis, 1999). Scores are stable over time (test-retest $r = .91$), and are moderately correlated with dissociation (Nijenhuis et al., 1998).

The standard version of the TEQ was used with the US sample. The TEQ was translated into Hebrew and the translated version was used with the Israeli sample. The procedure for translating the TEQ was consistent with established protocol. The TEQ was translated into Hebrew by ES then back-translated into English by a native English speaker who was blind to the initial instrument. ES then compared the original and back-translated English versions and reconciled differences in the essential meaning of items.

Multidimensional Inventory of Dissociation (MID 4.0[2])

The MID 4.0 is a 259-item[5] measure of dissociation (Dell, 2002b). Items were rationally derived and designed to comprehensively assess the domain of dissociation. Respondents are asked to indicate "How often do you have the following experiences when you are *not under the influence of alcohol or drugs*?" Item scores range from 0 (*Never Happens*) to 10 (*Always Happens*). There are 171 items that assess dissociation. The remaining items assess other clinical symptoms (psychosis & cognitive distraction) and dimensions of validity (Defensiveness, Neurotic Suffering, Attention Seeking, Rare Symptoms, and Factitious Behavior). The MID yields two global indices of pathological dissociation. The *Mean MID Score* is the average frequency of occurrence of each dissociative symptom and can range from 0 to 100. Thus, values on this scale use the same metric as the DES. The *Severe Dissociation Score* assesses the number of severe dissociative symptoms reported. The MID has 13 primary dissociation scales, 11 scales that assess *partially*-dissociated influences of another self-state and 6 scales that assess *fully*-dissociated actions of another self-state (see Table 1). Previous studies examining the psychometric properties of the MID 3.0 were

TABLE 1. Listing of scales included on the Multidimensional Inventory of Dissociation and result of equivalence testing.

A. Scales Assessing Dissociative Experiences[1]	F value for $\Delta\alpha$[2]	Mantel-Haenszel χ^2
1. Memory Problems (12)	1.01	0.024
2. Depersonalization (12)	1.01	0.032
3. Derealization (12)	1.18	3.97*
4. Flashbacks (14)	1.54*	1.69
5. Somatoform (15)	4.48***	4.84*
6. Trance (13)	1.90**	0.26
7. Identity Confusion (13)	0.96	0.99
8. Voices (13)	1.69*	0.60
9. Passive Influence (24)	0.91	0.02
10. Self-alteration (13)	1.22	0.00
11. Self-states and Alters (14)	2.78***	0.28
12. Discontinuities of time (13)	1.89**	0.88
13. Disremembered Behavior (15)	1.83**	0.00
B. Scales assessing partially-dissociated influences of another self-state		
1. Child Voices (3)	3.62***	0.00
2. Internal Struggle for Control (9)	1.14	0.97
3. Persecutory Voices (5)	4.19***	2.49
4. Partially Dissociated Speech (3)	1.20	0.00
5. Partially Dissociated Thoughts (6)	1.36	0.04
6. Partially Dissociated Emotions (6)	0.79	2.06
7. Partially dissociated Impulses (4)	0.42	0.25
8. Partially Dissociated Actions (3)	0.69	0.12
9. Temporarily Dissociated Knowledge and/or Skills (5)	0.91	7.88**
10. Disconcerting Experiences or Self-Alteration (13)	1.22	0.00
11. Puzzlement About Oneself (7)	0.87	0.22
C. Fully-Dissociated Actions of Another Self-State		
1. Time Loss (5)	2.30***	1.25
2. Coming to (4)	1.47	0.00
3. Fugues (4)	2.27***	3.64[†]
4. Being Told of Disremembered Behavior (5)	1.18	3.78[†]
5. Finding Things Among Your Possess ions That You Cannot Account for (4)	1.46	0.11
6. Finding Evidence of Your Recent Behavior – That You Don't Remember Doing (6)	1.20	0.00

[1] Numbers in parentheses reflect number of items loading on that scale
[2] $\Delta\alpha = (1-\alpha_1)/(1-\alpha_2)$
[†] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

quite favorable (Dell, 2002a). With one exception (i.e., Psychosis), the subscales are internally consistent (α range = .77 to .96). The MID 3.0 scores are significantly correlated with the DES (*rs* .90-.94) (Dell, 2002a) and the effects of physical (*r* = .45) and sexual abuse (*r* = .54) (Dell, 2001a).

The standard MID was used with the US sample. The MID was translated into Hebrew and the translated version was used with the Israeli sample. Previous analyses of the psychometric properties of the Hebrew version of the MID (Somer & Dell, 2005) yielded promising findings. The H-MID total score and the 13 primary scales were significantly correlated with the DES (*r* = .53-.70) and with the total number of traumas endorsed.

As noted by van de Vijver and Leung (1997), merely reporting indices of internal consistency or bi-variate correlations between measures of similar constructs does not ensure that instruments developed and normed in one country perform the same way in other countries. Establishing such functional equivalence is an essential first step before researchers can turn their attention to the focal questions. Two techniques were chosen to examine scale level performance of the MID across samples. First, indices of internal consistency-reliability (alpha) were compared. The statistic to test for equality of two independent reliability coefficients is $(1-\alpha 1)/(1-\alpha 2)$. Using this index, 17 of 30 MID scales are equivalent across samples (Table 1).

The second procedure for examining scale performance is an extension of a procedure outlined by van de Vijver and Leung (1997) for examining performance of dichotomous items. First, three groups were formed based on total MID scores. Then, each scale score was dichotomized. A series of 2(culture) $\times$ 2(symptom presence/absence) frequency tables were constructed, each of which is nested within the three total MID groups. The goal is to determine whether scales perform similarly across different cultures at different overall levels of dissociation severity. The Mantel-Haenszel procedure tests whether the odds of having a particular symptom type are identical for both cultures at all three levels of total MID scores. As can be seen Table 1, 25 of the 28 MID scales evidenced functional equivalence.

PROCEDURE

This research received written approval from the institutional review boards at both universities. Potential participants were approached in

classes and told about the opportunity to earn extra credit in exchange for completing a questionnaire packet. When the research participants arrived at the testing site they were given a questionnaire packet consisting of the consent form, the TEQ, and the MID. After answering questions, participants signed the consent form and procedures for completing each questionnaire were then provided.

RESULTS

Description of Samples

To determine if the samples differed in level of exposure to abusive experiences, a one-way ANOVA was computed. Levene's test for homogeneity of variance revealed that the two groups differed significantly. Therefore, sample scores were rank-ordered and a Mann-Whitney U was computed. For a number of reasons (i.e., limited sample size, use of less powerful non-parametric tests) no post-hoc corrections for alpha inflation secondary to multiple contrasts were made and alpha was set at .05. The US students reported significantly higher rank-ordered scores than Israeli students for abuse type (emotional neglect: $U = 1900.50$, $p < .005$; emotional abuse: $U = 1512.00$, $p < .0001$; physical abuse: $U = 1980.50$, $p < .005$; sexual harassment: $U = 2017.00$, $p < .05$); sexual abuse $U = 1808.50$, $p < .0001$; and total trauma exposure: $U = 1531.00$, $p < .0005$). A substantial percentage of both samples reported at least some exposure to abusive experiences (Table 2).

TABLE 2. Percentage of persons in Israeli and US samples who reported experiencing some level of abuse.

	Sample	
Type of abuse	Israeli	US
Emotional Neglect	15.7%	35.3%
Emotional Abuse	31.5%	63.2%
Physical Abuse	6.8%	25.0%
Sexual Harassment	16.4%	32.4%
Sexual Abuse	4.1%	30.9%
Total Abusive Experience	85.7%	100.0%

Comparison of Samples on Overall Dissociation and 13 Primary Dimensions of Dissociation

There were no significant differences between the samples in overall dissociation (i.e., MID Mean score & MID Severity score). The values for the MID Mean, which are most similar to the DES mean score, were substantially lower than DES scores that are typically seen in college samples [United States $M = 7.9(9.2)$, Israeli $M = 5.9(6.9)$]. A meta analysis of DES scores (Ijzendoorn & Schuengel, 1996) found a mean value of 14.4. A series of single group t-tests compared the MID mean values for the focal groups with this theoretical population DES mean. The values for both groups were significantly lower than this theoretical population mean [United States: $t(66) = -5.9, p < .0005$; Israeli: $t(73) = -10.8, p < .0005$].

Next, the US and Israeli students were compared on the 13 primary dimensions of dissociation (see Table 1). The rank ordered scores of the US group were significantly higher than the Israeli group for two of the primary dimensions of dissociation: Flashbacks $U = 1850.5, p < .01$, and Somatoform Dissociation, $U = 1780.0, p < .005$.

Comparison of Samples on Partially-Dissociated and Fully-Dissociated Influences of Another Self-State

The rank-ordered scores of the two groups were compared on the eleven scales assessing partially-dissociated influences of another self-state and the six scales assessing fully-dissociated effects of another self-state. There were three significant differences: Persecutory Voices, $U = 2066.5, p < .05$, Temporarily Dissociated Knowledge or Skills, $U = 1624.0, p < .0005$, and Being Told of Disremembered Actions $U = 1955.0, p < .05$. In all cases, the rank-ordered scores of the US sample were higher, indicating higher levels of dissociation.

DISCUSSION

This paper had three primary objectives: (1) to compare the abuse histories of American and Israeli college students, (2) to provide a detailed report of the types and severity of dissociative experiences reported by college students, and (3) to compare the dissociative experiences of American and Israeli college students. These two sets of data

provide information regarding the extent to which dissociation may be culture specific, as opposed to culturally universal.

Surprisingly, these two groups reported marked differences in level of exposure to abuse. In every domain measured by the TEQ, the US sample reported higher levels of abuse.[4] There are at least three possible explanations for these findings. First, there may be a genuine difference in abuse exposure experienced by American and Israeli students. This explanation, however, is inconsistent with the similar rates of child sexual abuse that were reported in previous studies in the USA (22.3%, Gorey & Leslie, 1997) and Israel (25.0%, Schein et al., 2000). Second, the US sample was younger than the Israeli sample (ages = 20.9 and 25.4, respectively). It is possible that the younger cohort interpreted items on the TEQ differently than their older counterparts. However, the magnitude of the differences between these two groups makes this explanation unlikely. Third, it is possible that cultural differences influence the willingness of US and Israeli college students to report abusive experiences.

Given the magnitude of the differences in exposure to abuse, and the robust relationship between exposure to abuse and dissociation, a corresponding difference in frequency of dissociative experiences might be anticipated. While, the US and Israeli students did not differ in *overall* dissociation, American students had higher scores on two primary dimensions of dissociation, two *partially*-dissociated manifestations of another self-state, and one *fully*-dissociated effect of another self-state. The present study examined 32 MID scales (overall dissociation = 2, primary dimensions = 13, partially-dissociated influences = 11, and fully-dissociated influences = 6). Thus, 27 of 32 contrasts revealed no significant differences between the two samples suggesting that the MID can be administered in Hebrew with results consistent with those in the US. These findings are consistent with the notion that overall severity of dissociation may be a universal phenomenon (*etic*), but they also suggest that culture (and other factors) may be related to specific kinds of dissociation (*emic*). It should be noted, however, that few studies have directly compared cultural groups on overall severity of dissociation and severity of specific dimensions of dissociation. Most studies have compared groups on overall level of dissociation. For example, Xiao et al. (2006) found that dissociation was far lower in Chinese samples (clinical and non-clinical) than in a Canadian general population sample. Investigators are only beginning to compare the psychometric properties of dissociation measures developed in the United States with their performance in other cultures (e.g., Nilsson & Svedin, 2006) and

currently no studies have examined factorial invariance of extant dissociation measures across cultures.

Although this study advances our understanding of the universality of dissociation among college students, one important limitation should be noted. The TEQ, while relatively comprehensive, assesses some events that are nontraumatic (i.e., "emotional neglect by more distant members of family"). Moreover, some of the behavioral descriptors provided to test takers are sufficiently vague to produce over-reporting. For example, the behavioral descriptors for emotional neglect include "being left alone, or receiving insufficient affection." Similarly, the behavioral anchors for emotional abuse include teasing and name-calling by siblings. Future research should employ a more rigorous measure of trauma exposure. In addition, future researchers might which to examine both the factorial and metric equivalence of the TEQ across samples [within culture(s)], and across cultures.

NOTES

1. A number of trauma exposure instrument have been developed that have the same acronym (TEQ: Vrana & Lauterbach, 1994) or a similar one (TLEQ: Kubany, 2000). All references to the "TEQ" in this manuscript will refer to the Dutch TEQ.

2. Unless specifically stated otherwise, all references to the MID in this paper refer to version 4.0.

3. Subsequent to the completion of this paper, the MID 4.0 was revised twice. The MID 5.0 has 229 items and the MID 6.0 has 218 items. Each version of the MID has a corresponding scoring protocol. The scoring protocol for version 4.0 was used in the present study. The scoring program for the present study was written by DL. All questions regarding development and use of the MID should be directed to PD.

4. While the US sample reported significantly higher levels of abuse, this is not meant to imply that the US sample has a higher level of trauma exposure. Were this article to focus on events such as exposure to terrorist attacks, the Israeli sample would no doubt obtain higher scores.

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