

SCREENING FOR MPD: CLINICAL UTILITY OF THE QUESTIONNAIRE OF EXPERIENCES OF DISSOCIATION

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ABSTRACT

The major purpose of this study was to determine the effectiveness of the Questionnaire of Experiences of Dissociation (QED) as a screening instrument for the diagnosis of multiple personality disorder (MPD). The QED was administered to 18 patients with MPD, 18 control subjects, 18 alcoholics, and 15 patients diagnosed with both PTSD and a substance abuse disorder. Using a cut-off score of 15, the QED correctly identified all MPD patients as needing further screening. None of the control subjects, and only one of the alcoholics, were incorrectly identified as requiring further evaluation. These preliminary findings suggest that the QED has good clinical utility as a screening tool for the identification of individuals who are afflicted with multiple personality disorder.

INTRODUCTION

There is a need to screen for dissociative disorders, including multiple personality disorder, in psychiatric and substance abuse populations. (Dunn, 1992). The Questionnaire of Experiences of Dissociation (QED) (Riley, 1988) was developed as a brief assessment technique for the study of dissociation. Riley reported that non-clinical populations averaged 9.92 points on the scale compared to 24.6 points for patients with multiple personality disorder (MPD). However, the clinical utility of these scores was questionable since only three MPD patients were involved in the Riley study, and he omitted standard deviation and range statistics from the manuscript. Additionally, there was no information provided regarding a cut-off score which practitioners might use to determine whether further evaluation of a dissociative disorder was indicated.

The purpose of the present study was two-fold. First, we investigated the utility of the QED as a screening tool for multiple personality disorder. The second step involved the

determination of a cut-off score that may be used to indicate the need for further assessment of a possible dissociative disorder.

METHOD

Subjects

Four groups of subjects were included in the present study. Group I (MPD) consisted of 18 individuals diagnosed as suffering multiple personality disorder. Of these, ten were receiving outpatient therapy at a midwestern community mental health center and eight were in therapy with a private practitioner. Each was diagnosed according to *DSM-III-R* criteria. (American Psychiatric Association, 1987). Means and standard deviations for age and education were 37.00 years ($SD=6.86$) and 13.78 years ($SD=2.64$), respectively. Fourteen patients were female (77.8%) and four were male (22.2%).

Group II (control) consisted of 18 normal individuals living in the local community who were matched with the MPD patients on age, education, and gender. None had been treated for a psychiatric disorder. Means and standard deviations for age and education were 38.72 years ($SD=8.72$) and 14.67 years ($SD=2.09$) respectively.

Group III (alcoholics) consisted of 18 males being treated for alcohol abuse, or alcohol dependence, on an inpatient unit in a midwestern Department of Veteran Affairs Medical Center. They were matched with the MPD and control subjects on age and education. The means and standard deviations for age and education were 40.72 years ($SD=4.64$) and 13.33 years ($SD=2.00$), respectively.

Group IV (PTSD) consisted of 15 patients, diagnosed, with post-traumatic stress disorder by a staff psychiatrist, using *DSM-III-R* criteria. They were receiving inpatient treatment for a substance abuse problem at a midwestern Department of Veteran Affairs Medical Center. Fourteen were male (93.3%) and one was female (6.7%). Means and standard deviations for age and education were 43.40 years ($SD=4.22$) and 12.07 years ($SD=1.87$), respectively.

A oneway analysis of variance indicated a significant age difference across the groups, $F(3,65) = 2.98, p < .04$. A Tukey post-hoc analysis revealed that the PTSD group was significantly older than the MPD group (43.40 vs 37.00, $p < .05$). No other age differences emerged. However, oneway analysis of variance revealed a significant difference in education across groups, $F(3,65) = 4.46, p < .01$. A Tukey post-hoc analysis showed that the control subjects had significantly more years of schooling than the PTSD/substance abuse group,

TABLE 1
Means, Standard Deviations, and Ranges of QED scores
by Diagnostic Group

	Mean	SD	Range
MPD	21.06	3.56	15.00 - 26.00
Control	6.33	2.74	2.00 - 11.00
Alcoholic	6.33	3.68	0.00 - 15.00
PTSD	13.33	4.30	6.00 - 22.00

TABLE 2
Sensitivity and Specificity Rates for Various
QED Cut-off scores (MPD vs PTSD)

Cut-Off Score	Sensitivity	Specificity
15	100%	60.0%
16	94.4%	66.7%
17	83.3%	73.3%
18	83.3%	86.7%
19	66.7%	86.7%

(14.67 vs 12.07, $p < .05$). No other differences were found.

Instrument

The Questionnaire of Experiences of Dissociation (QED) (Riley, 1988) consists of 26 true-false items which were drawn from the clinical literature dealing with dissociative and multiple personality disorders. As noted previously, normals produced a mean score of 9.92 ($SD=4.28$), while the mean score for three MPD patients was 24.6 (Riley, 1988). No cut-off scores have been developed to determine whether further assessment is needed to rule out a dissociative disorder.

Procedure

Subjects in the alcohol and PTSD groups completed the QED as part of the routine psychological evaluation done on the substance abuse unit between April, 1991 and November, 1992. The MPD subjects were in psychotherapy with one of the authors (D.M.) and agreed to complete the screening instrument for research purposes during the fall of 1992. Control subjects, who lived in the same metropoli-

tan area as those with MPD, also agreed to complete the QED for research purposes during the fall of 1992. MPD and control subjects completed a demographic sheet and signed a consent form.

To make the QED a functional instrument for the clinician, it was important to establish a meaningful cut-off score for determining whether further assessment of a dissociative disorder was warranted. Similarly to the method employed by Steinberg, Rousaville and Cichetti (1991) with the DES, the present procedure was to maximize sensitivity: the ability to correctly identify true positive cases of dissociative disorders, and maximize specificity; and the ability to correctly identify persons without a dissociative disorder. In this way, false positive cases would be minimized and fewer cases of true dissociative disorders would be missed. A number of QED values were tested in order to determine the most optimal score.

RESULTS

Means and standard deviations on the QED are presented in Table 1. A oneway analysis of variance indicated a significant difference across groups, $F(3,65) = 46.11$, $p < .0005$. A Tukey post-hoc analysis demonstrated that MPD subjects achieved a higher mean score than the other groups, and that the PTSD group achieved a higher score than the alcohol or control groups

($p < .05$). No other significant differences were found.

Inspection of the score distributions of the four groups revealed no overlap between the MPD and controls, and only one person overlapped between the MPD and alcohol group when using a cut-off score of ≥ 15 . Substantial overlap of the distributions occurred between the MPD group and PTSD groups. Therefore, the score of ≥ 15 points maximized sensitivity and specificity between the MPD group and the control and alcohol groups. Thus, it was decided that a score of 15 or greater was the optimal cut-off.

Using a cut-off score of ≥ 15 , the QED classified all 18 MPD subjects as needing further evaluation for a dissociative disorder. Each of the 18 control subjects were classified as not being in need of further evaluation. Seventeen of 18 alcoholics (94.4%) and 9 of 15 PTSD subjects (60%) achieved QED scores which indicated that further evaluation was not warranted.

Contrasting MPD and controls, a cut-off of 15 correctly classified all subjects resulting in 100% sensitivity and speci-

ficity. For MPD versus alcoholics, 100% sensitivity and 94.4% specificity was achieved. Using 15 as a cut-off score, a comparison of the MPD and PTSD subjects resulted in 100% sensitivity and 60% specificity. Table 2 presents sensitivity and specificity results for additional QED cut-off scores in comparing the MPD and PTSD groups. Contrasting the MPD subjects with all non-MPD subjects combined, a cut-off score of 15 resulted in 100% sensitivity and 86.3% specificity, with an overall hit rate of 89.8%.

DISCUSSION

The present study indicates that the QED has potential as a screening device for MPD, given its ease of administration, response format, and brevity. Using a cut-off score of 15, all MPD subjects were classified as needing a more formal diagnostic evaluation for the presence of a dissociative disorder. To further support its effectiveness, the QED was able to correctly classify 100% of control subjects and over 94% of alcoholics as not being in need of additional evaluation. When the entire sample is dichotomized into MPD versus non-MPD subjects, the overall hit rate for the QED is approximately ninety percent.

In regard to the PTSD group, the QED indicated that 40% of the subjects required further evaluation. This finding is not problematic, however, and may actually strengthen the credibility of the QED as a screening instrument for dissociative disorders. Previous research found significant dissociative experiences among patients diagnosed with PTSD (Bernstein & Putnam, 1986; Branscomb, 1991; Bremner et al., 1992). Furthermore, there is some evidence to support re-classifying PTSD as a dissociative disorder (Davidson & Foa, 1991).

Several limitations should be noted regarding the present study. First, demographic variables were not equivalent across all groups. The PTSD group was approximately six years older, on average, in comparison to the MPD group. They also averaged about two and a half years less education in comparison to the control group. Finally, gender was not equivalent across the groups. While the MPD and control groups each included 14 females and four males, the alcoholic group was entirely male and the PTSD abuse group had only one female. It is possible that these demographic differences skewed the overall results. For example, the prevalence rate of multiple personality disorder is considered, by some experts, to be at least five times higher in females than males (Putnam, 1989). Thus, lower QED scores among the alcoholics and PTSD subjects may be a reflection, in part, of the gender distribution of the samples. However, other noted authorities have hypothesized that the actual male to female ratio of MPD in the general population is actually closer to one to one (Ross, 1989). Along the same lines, age disparities in the groups may have contributed to QED differences given that dissociative experiences have been found to decline with age (Ross, Joshi, & Currie 1990). A second limitation is that the PTSD group was not pure. It consisted of individuals who were being treated for some type of substance abuse and had a history of PTSD. It is unclear as to what the

outcome would have been if individuals with a primary diagnosis of PTSD would have been included.

Another limitation is the inflated sensitivity and specificity values due to a base rate of approximately 50% for the majority of analyses. Although an adequate hit rate was demonstrated when all groups were combined (base rate of 26%), the utility of the QED would certainly be reduced as base rates become lower. However, one study revealed a base rate of 39% for dissociative disorders in a substance abuse population (Ross, et al., 1992), suggesting that a base rate of 26% may not be too unusual for some populations.

Nevertheless, it would be beneficial to attempt to replicate these findings in a population where base rate of dissociative disorders, as well as other psychiatric syndromes, more closely approximate those found in other treatment settings. Finally, further research is needed using the QED with a more balanced sample of males and females within various diagnostic groups.

CONCLUSION

Despite the noted limitations, results of the present study indicate that the QED may be used as a screening tool for multiple personality disorder. Using a score of 15 as a cut-off, it was able to effectively distinguish patients with MPD from normals and alcoholics. If one considers PTSD as a possible dissociative disorder the current findings support the use of the QED to screen for dissociative disorders. Further research is needed to replicate these findings as well as to test the QED with other diagnostic groups.

Additionally, future studies are needed to determine if different QED norms exist based on geographic location, ethnicity, socio-economic status, etc. Finally, comparative studies, using the DES and QED may prove important in terms of their relative effectiveness as a screening instrument with various diagnostic groups. ■

REFERENCES

- American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders* (3rd ed., rev.) Washington, DC: Author.
- Bernstein E.M., & Putnam, F.W. (1986). Development, reliability, and validity of a dissociation scale. *Journal of Nervous and Mental Disease*, 174, 727-735.
- Branscomb, L.P. (1991). Dissociation in combat-related post-traumatic stress disorder. *DISSOCIATION*, IV(1), 13-20.
- Bremner, J.D., Southwick, S., Brett, E., Fontana, A., Rosenheck, R., & Charney, D.S. (1992). Dissociation and posttraumatic stress disorder in Vietnam veterans. *American Journal of Psychiatry*, 149, 328-332.
- Davidson, J.T., & Foa, E.B. (1991). Diagnostic issues in posttraumatic stress disorder: Considerations for the DSM-IV. *Journal of Abnormal Psychology* 100, 346-355.

- Dunn, G.E. (1992). Multiple personality disorder: A new challenge for psychology. *Professional Psychology: Research and Practice*, 23, 18-23.
- Putnam, F.W. (Ed.) (1989). *Diagnosis and treatment of multiple personality disorder*. New York: Guilford Press.
- Riley, K.C. (1988). Measurement of dissociation. *Journal of Nervous and Mental Disease*, 176, 449-450.
- Ross, C.A. (Ed.) (1989). *Multiple personality disorder: Diagnosis, clinical treatment, and features*. New York: Wiley.
- Ross, C.A., Joshi, S., & Currie, R. (1990). Dissociative experiences in the general population. *American Journal of Psychiatry*, 147, 1547-1552.
- Ross, C.A., Kronson, J., Koensgen, S., Barkman, K., Clark, P., and Rockman, G. (1992). Dissociative comorbidity in 100 chemically dependent patients. *Hospital and Community Psychiatry*, 43, 840-842.
- Steinberg, M., Rounsaville B., & Cichetti, D. (1991). Detection of dissociative disorders in psychiatric patients by a screening instrument and a structured diagnostic interview. *American Journal of Psychiatry*, 148, 1050-1054.