The Use of Projective Drawings to Assess Alexithymia: The Validity of the Wartegg Test

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Abstract. *Background:* The goal of this study was to investigate whether the results of assessments of alexithymia based on a self-report questionnaire, the Toronto Alexithymia Scale (TAS), correlates with those based on drawing content in the Wartegg Drawing Completion Test (WZT). It was hypothesized that high alexithymia scores in the TAS are negatively correlated to the number of human drawings in the WZT. *Method:* Subjects were 83 patients of the Oulu Deaconess Institute, Oulu, Finland. *Results:* The TAS mean score for subjects with no human drawings was 56.0 compared to 45.4 for those with one or more human drawings ($p < .001$). *Conclusions:* The results can be considered encouraging concerning the overall usefulness and validity of the WZT. It is concluded that efforts to develop a psychometrically valid and reliable method of interpreting the WZT should be continued.

Keywords: alexithymia, Wartegg test, assessment, validity

Mattlar, Lindholm, Haasiosalo, and Vesala (1991) investigated whether the Wartegg Drawing Completion Test (WZT), a projective drawing test developed by Ehrig Wartegg (1939), may be used to detect alexithymia. On the basis of the definition of alexithymia by Von Rad (1983), Mattlar et al. hypothesized that alexithymic subjects would favor conformistic, noncreative solutions in their drawings and prefer to draw inanimate objects, while nonalexithymic subjects would favor human or animal drawings. In Mattlar's study, the interrater agreement between assessments of alexithymia based on Wartegg drawings was as high as 0.77 for four independent judges. However, correlations of scores obtained with the WZT with those of scores obtained using other instruments were not studied. Validity studies involving comparisons between structured personality tests and projective drawings have generally shown low correlation (Kahill, 1984). While projective drawing tests continue to enjoy widespread popularity among clinical psychologists, some personality assessment researchers (Lilienfeld et al., 2000) have suggested that the use of projective drawings should be discontinued due to their lack of reliability and validity.

In Wartegg's test, the respondent draws eight drawings, deciding freely the topic of each drawing, while in other projective drawing tests the topic of the drawing, such as a tree or a person, is given by the tester. Because of the freedom of choice in the WZT, qualitative aspects of the drawings are less important in the interpretation of Wartegg drawings than in the other tests. Very few validity studies exist for the WZT. The existing interpretation methods devised for the WZT by Wartegg (1939), Crisi (1998), and Gardziella (1985) are based on clinical experience and have not been empirically validated. Roivainen (1997) found a weak correlation between extraversion as measured by Cattell PF10 (Factors A and E) and the total number of human drawings in the WZT. Tamminen and Lindeman (2000) failed to find a significant correlation between Wartegg drawings and a personality profile based on Jackson's Personality Research Form (1997).

The purpose of this study was to investigate whether alexithymia scores based on a psychometrically valid and reliable self-report questionnaire, the Toronto Alexithymia Scale (TAS; Bagby et al., 1986), correlate with those obtained based on drawing content in the WZT.

Hypothesis

We hypothesized that high scores in the TAS would be negatively correlated to the number of human drawings in the WZT.

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Method

Subjects were 83 patients of the Oulu Deaconess Institute, Oulu, Finland. The average age of the 48 female and 35 male subjects was 45 years. The WZT and the TAS constitute a part of the psychological assessment of the patients at the center who are employees on sick leave or on temporary disability pension. The psychological assessment is part of a health/working capacity assessment requested by social insurance offices and employment offices on behalf of their clients.

In addition to the WZT and the TAS, all subjects were administered the Finnish version of the Beck depression inventory, RBDI (Beck,1972; Raitasalo, 1995) and interviewed by a clinical psychologist (a 45-minute assessment interview).

The Finnish version of the TAS-20 was used (Joukamaa et al., 2001). The TAS may be considered as the best currently available instrument to assess alexithymia. Recent studies (Joukamaa et al., 2001) have concluded that the Finnish version of the test is valid and reliable.

The standard WZT test form and instructions were used. The A4-sized test form has eight white 4 cm by 4 cm squares in two rows on a black background. Each square is blank, except for a symbol, such as a dot or a line, that is given as the starting point of a drawing. For example, a dot is located in the center of Square 1. Subjects are instructed to complete the eight drawings, incorporating the given sign in the drawing. Subjects are told that the artistic quality of the drawing is not important, that there are no right or wrong answers in the test, and that they are free to choose the topics for the drawings. There is no time limit.

The drawings were assessed by two independent judges. Prior to assessment, the following criteria for human drawings were set: All drawings depicting human beings or body parts were accepted in this category. Strawmen were accepted, while snowmen, ghosts, robots, masks, the sun or the moon with smiling faces were not accepted.

Results

Sixty-one subjects drew at least one human drawing while 22 drew none. Twenty-nine subjects drew more than one human drawing. Reliability/agreement between the two judges was .94. The TAS mean score was 48.4; 45.6 for women and 52.2 for men. Twenty subjects scored 60 or more on the TAS, thus meeting the criterion for alexithymia (Taylor et al., 1997).

Eleven out of the twenty alexithymics did not draw human drawings, while 24 out of 25 of the subjects with TAS mean score 40 or lower had drawn at least one. The correlation between the TAS score and the total number of human drawings in the WZT was –.33. The TAS mean score for subjects with no human drawings was 56.0, compared to 45.4 for those with one or more human drawings. The difference is significant, $t(81) = 3.71$, $p < .001$.

Table 1. The number of alexithymic and depressed subjects drawing human drawings (HD).

	Alexithymic	Depressed nonalexithymic	No diagnosis
HD	9	23	29
No HD	11	6	5
Total	20	29	34

Age had a weak positive correlation with TAS (.17) and a moderate negative correlation (–.39) with human drawings. Correlation between human drawings and the RBDI depression inventory score was – 0.10. Forty-two subjects scored at least 5 points on the RBDI, the cutoff score for mild depression, and 13 of these subjects were also alexithymic. Table 1 shows the number of subjects with no human drawings in each category.

There is a significant difference between the number of subjects observed and the number expected to draw human drawings, $\chi^2(2) = 8.28$, $p = .016$. There is no significant difference when the Depressed and No diagnosis groups only are compared, $\chi^2(1) = 0.30$, $p = .586$.

Discussion

Our results indicate that nonalexithymic persons (i.e., those with a low TAS score) normally draw at least one human drawing in the Wartegg test, while persons scoring high on the TAS draw human drawings less often. However, almost half of the subjects scoring 60 or more on the TAS, the cutoff score for alexithymia, drew at least one human drawing. Some of these cases may be explained by response bias factors. While the TAS is probably the best instrument available to assess alexithymia, it is, like other self-report measures, based on each respondent's conscious self-image, which may sometimes be quite incoherent. As 5 of the 20 statements in the TAS are negatively keyed, genuinely alexithymic subjects are supposed to disagree with these statements, while those with a positive response bias agree nondiscriminately with all statements. However, subjects in the present study were also interviewed as a part of their assessment at the institute, and in most cases, the diagnosis of alexithymia based on high TAS score was also supported by

the interview for subjects that had drawn human drawings.

Definitions of alexithymia (Von Rad, 1983; Taylor & Bagby, 2000) list difficulty in identifying and expressing feelings and a lack of fantasy as salient features of this construct. We believe that both of these features may lead to the lack of human drawings in alexithymic patients. For example, drawing a simple circle by completing the semicircle given in Square 8 of the WZT requires less imagination than drawing a round smiling face, and also less emotion is involved. Although we conclude that the absence of human drawings in the WZT should not, by itself, be considered a sufficient criterion for alexithymia, our results can be considered encouraging concerning the overall usefulness and validity of the WZT. It should be noted that Mattlar et al. analyzed other factors besides drawing content. We suggest that efforts should be continued to develop a more complex, psychometrically valid and reliable interpretation method that can take content as well as qualitative aspects of the drawings into account for the purposes of assessing not only alexithymia, but also other personality factors.

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