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Self-Concept and the Spinal-Cord-Injured: An Investigation Using the Tennessee Self-Concept Scale

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Previous research suggests that the variance of physical self-esteem, as assessed by the Tennessee Self-Concept Scale (TSCS) and other tests, reflects a personality factor independent from general self-esteem. To test this possibility further, the TSCS was administered to 45 spinal-cord-injured patients, and the results were compared to that of other groups. The spinal-cord-injured group scored lower on physical self-esteem than did the other groups. However, the group was found to be comparable to the normal group on other measures of self-esteem.

The purpose of the present study is to investigate the relationship between physical and general self-esteem among the physically disabled, as measured by the Tennessee Self-Concept Scale (TSCS; Fitts, 1964-1965). Several authors (e.g., Shavelson, Hubner, & Stanton, 1976) have proposed a multifactor approach to the study of self-concept. One factor that may contribute to overall self-concept is physical self-esteem. Results from normal, disabled, and medically ill patients across a number of paper-and-pencil tests suggest that physical self-esteem is independent from general self-esteem, with the two sharing between 15% and 70% of their variance (Mayer & Eisenberg, in press). The present work with the TSCS provided further information regarding the relationship between physical and general self-esteem, levels of self-esteem, and the validity of the TSCS with a physically disabled population.

The TSCS consists of 100 items, 90 of which assess self-concept and 10 of which measure self-criticism. A total score, and eight row and column scales, reportedly assess the following aspects of the self: Identity (Row 1), Self-Satisfaction (Row 2), Behavior (Row 3), Physical Self (Column A), Moral-Ethical Self (Column B), Personal Self (Column C), Family Self (Column D), and Social Self (Column E). The TSCS has been used in several hundred investigations and with disabled groups in several instances (e.g., DiBartolo, 1969; Meighan, 1971).

While the clinical distinctions in self-concept that the test's subscales imply may be valid, the method of scale construction renders it unlikely that all the subscales measure different attributes. The above eight scores on the test are based on only 90 items, and each of these items falls by design on both a row and a column scale, thus limiting these scales' independence. The present authors reanalyzed reliabilities and intercorrelations reported in the test manual (obtained from different populations). The subscales correlated between .96 and 1.00 with the total test after being corrected for attenuation due to unreliability, except for the physical self-esteem scale, which correlated .84 with the test. Additional support for these relationships among the subscales comes from factor analytic studies by Bolton (1976) and by Pound, Hansen, and Putnam (1977). Bolton concludes that the "five self subscales do receive some support, with the Physical subscale clearly validated" (pp. 951-953). Pound et al. draw different conclusions; nonetheless, in examining their report of the communalities found among the five column subscales (the degree to which the factors account for the variance in the original variables), h^2 (the variance explained) is lowest through all replications for the Physical Self scale. Thus, while there are likely additional factors in self-esteem, it appears that there are at least two factors that can be measured by the TSCS, perhaps related hierarchically: first, a general factor, and second, a factor of physical self-esteem.

As part of a follow-up program conducted on the Cleveland Veterans Administration Medical Center's Spinal Cord Injury service, a group of spinal-cord-injured veteran outpatients were asked to complete the TSCS. Most veterans in the sample had suffered their injury in their early twenties (range of 36); the group had a mean age of 40 (range of 46). Fifty-two percent were married. The greatest number lived with their wives and children, followed in number by those who lived with their parents. Ninety-four percent received a Veterans Administration pension or other form of compensation. Sixty-eight percent of the sample were paraplegic, and 32% were quadriplegic.

Requests for reprints and for an extended report of this study should be sent to John Mayer, Department of Psychology, Case Western Reserve University, Cleveland, Ohio 44106.

A total of 45 veterans (85% of those approached) returned completed scales.

Three contrast groups were also used in the study, based on work reported in the TSCS manual. These were (a) the psychologically integrated, a sample of 75 persons who, "by a variety of criteria, were judged as average or better in terms of level of adjustment or degree of personality integration" (Fitts, 1964–1965, p. 5); (b) normals, a sample of 626 people, with an age range from 12 to 68, with approximately equal numbers of both sexes, both Black and White, and representative of all social, economic, and educational levels; and (c) psychiatric, a sample of 363 psychiatric patients.

The physically disabled group scored between the normal and psychiatric groups on mean total self-esteem (integrated, $M = 376.01$, $SD = 25.46$; normals, $M = 345.57$, $SD = 30.70$; disabled, $M = 339.42$, $SD = 36.41$; psychiatric, $M = 323.00$, $SD = 44.50$). There was no statistically significant difference between normals and disabled on total esteem ($t = 1.09$, $p > .05$). However, the disabled group was lowest of all groups on physical self-esteem (integrated, $M = 76.63$, $SD = 5.95$; normals, $M = 71.78$, $SD = 7.67$; disabled, $M = 63.36$, $SD = 8.76$; psychiatric, $M = 67.30$, $SD = 11.10$). Although the original data are no longer available (Fitts, Note 1), some statistical work was possible. An average column scale was formed from the mean levels and variances of the four self-concept column scales (excluding physical self). The mean differences between the composite self-concept scale and the physical self-concept scale were: integrated, mean difference = 1.76, standard error of the difference (SED) = .69; normals, mean difference = 3.32, SED = .29; disabled, mean difference = −5.66, SED = 1.22; psychiatric, mean difference = 3.32, SED = .53. The SED is adjusted using the physical self versus composite self scale intercorrelations, which were virtually identical ($r \cong .58$) across samples. All of the groups had physical self-concept scores statistically significantly higher ($p < .02$ to $p < .001$) than their average column scale, except the disabled group, which showed the reverse pattern ($p < .0001$). Physical self-concept obtained the second lowest correlation of the subscales, with the total scale, $r = .81$ in this sample. A point-biserial correlation of −.14 between severity of disability (paraplegic or quadriplegic) and level of physical self-esteem did not reach statistical significance, although it was in the expected direction. Age, however, did correlate statistically significantly with physical self-esteem (−.26, $p < .05$), as did number of symptoms endorsed on a medical checklist (−.47, $p < .005$), which had also been administered as part of the study. Length of injury had no statistically significant relationship with either total or physical self-esteem.

The findings provide evidence to support previously held clinical impressions about the self-concept of the disabled; namely, that the disabled individual's self-concept is lower than that found among "normal" or nondisabled groups and yet is higher than that of the psychiatrically impaired. These findings also suggest that the physical self-concept is independent of general self-concept, as assessed by the TSCS. Physical self-concept appears to be compromised in the disabled; other dimensions of the self-concept may be relatively intact postdisability.

Reference Note

1. Fitts, W. H. Personal communication, November 23, 1981.

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