Validity Studies of the Filial Anxiety Scale

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Factor analytic and construct validity studies were conducted to explore the validity of Cicirelli’s (1988) 13-item Filial Anxiety Scale (FAS). The State-Trait Anxiety Inventory (Spielberger, 1983), and the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960), were a part of the investigation. The results offer support for the validity of the FAS subscales and the FAS’ usefulness as an instrument for measuring adult children’s feelings concerning elder-parent care.

Key Words: Factor analysis, Caregiving, Aging parents

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The United States Bureau of the Census (1983) reported aging trends that indicate caregiving for elderly parents will become an increasingly demanding responsibility for adult children and other family members (Brody, 1978, 1986; Cantor, 1981; Cicirelli, 1981, 1988). Cicirelli (1981) found that adult children worry about the amount of help they may be called upon to provide their aging parents in the future and whether they will be able to manage this burden. These concerns were referred to as filial anxiety, a term later defined by Cicirelli (1988) as “the psychological component of the response to an anticipated future stressor to parental decline and need for care.” To assess empirically such anxiety, Cicirelli (1988) developed a 13-item filial anxiety scale (FAS). A factor analysis of FAS scores obtained from 71 adult children having a parent living independently in the same midwestern community revealed two subscores for the scale. The first, labelled Filial Anxiety A (FAA), was interpreted to reflect “the adult child’s anxiety over his own ability to take on a caregiving role.” The second, labelled Filial Anxiety B (FAB) appeared to reflect “the adult child’s anxiety over his aging parent’s welfare.” The two subscales correlated .32 with each other and the internal consistency reliability (Cronbach’s alpha) was .88 for FAA and .77 for FAB. Test-retest for the two subscales proved satisfactory and initial validity studies offered convincing evidence of the construct validity of the FAS.

Cicirelli’s initial findings concerning the reliability and validity of the FAS supported its promise as a useful research tool in the exploration of the caregiving behavior of adult children. The purpose of this study is to explore the validity of the FAA and FAB subscales vis-à-vis other psychometric instruments and factor analysis.

The first component of the study described in this article assessed the construct validity of the FAS subscales by comparing varied populations’ FAA and FAB scores to their scores obtained on the Spielberger State-Trait Anxiety Inventory (STAI). According to Spielberger (1983), trait anxiety is essentially a constant, while state anxiety is transitory. In comparing FAS scores with scores from the STAI, it was predicted that FAA and FAB scores would show low but significant correlations with Trait Anxiety (T-Anxiety) scores, and high and significant correlations with State Anxiety (S-Anxiety) scores related to the care of mothers and of fathers in that items in the FAS would remind subjects of caretaking obligations.

The second component of the study that assessed the construct validity of the FAS subscales compared FAA and FAB scores to those obtained on the Marlowe-Crowne Social Desirability Scale (MSD). Although the MSD was initially designed to measure social desirability — the tendency to attempt to gain approval by responding in a culturally appropriate and acceptable manner as a response set (Marlowe & Crowne) — the scale has come to be regarded as a measure of the need for social approval, a more general concept than social desirability (Nederhof, 1985). It was posited that FAA and MSD scores would have a significant negative correlation (i.e., intrapsychic vs interpsychic), while scores on FAB would be unrelated to MSD scores, in that concern for an increasingly frail parent is essentially unrelated to general social approval. Also, it was predicted that the correlation between FAA and FAB scores themselves would not be significant in that FAA measures concerns about oneself vis-à-vis caregiving, while FAB measures concern about one’s aging parent(s).

The last component to assess FAS validity was to subject the FAS scores of this study to a factor analysis, and then compare results with those obtained by Cicirelli (1988).
Method

In the first stage of the investigation, the FAS, the State-Trait Anxiety Inventory, and the MSD, along with a demographic information sheet (DIS) were distributed in a packet to 290 subjects who were members of various business, civic, and church groups in a southern city with a population of approximately 50,000. Subjects were asked to complete the T-Anxiety Inventory, the FAS, DIS, and, in counterbalanced order, one S-Anxiety Inventory related to the prospect of having to care for a mother and another related to the prospect of having to care for a father. Of the 290 subjects receiving the packets, 178 completed and returned the packet, for a response rate of 61%.

In the next stage of the study, the FAS and a DIS were mailed to 1,927 faculty and staff members at a southern university. A total of 663 questionnaires were returned for a response rate of 34%, and of these, 527 completed all of the requested information.

Results

Validity

Of the 178 subjects completing the FAS-STA1-MSD-DIS packet, 86% were white, the average age was 41.58 (SD = 6.98), 51% were male, and 49% were female. For the FAS, STA1, and MSD, the following correlations were obtained (Table 1): The correlation of the FAA with T-Anxiety was .27 (p < .0001); and the correlations were obtained (Table 1): The correlation of FAA with S-Anxiety was .30 (p < .0001); and the correlation of FAA and MSD was .02 (p < .0001). The correlation of FAB with T-Anxiety was .23 (p < .001). The correlation of FAA with S-Anxiety (Fathers) was .27 (p < .0001); and the correlation of FAB with S-Anxiety (Fathers) was .30 (p < .0001). The correlation of FAA with S-Anxiety (Mothers) was .38 (p < .0001); and the correlation of the FAA with S-Anxiety (Mothers) was .27 (p < .0001). The correlation of FAA with S-Anxiety (Fathers) was .34 (p < .0001); of FAB with S-Anxiety (Fathers) was .30 (p < .0001). The correlation of the FAA and MSD was −.30 (p < .0001); and FAB and MSD was .02 (p < .410). Finally, the correlation of the FAA with the FAB was .09 (p < .125), and the partial correlation with the effect of MSD removed was z = .4968 (p = .0032).

Factor Structure

Of the 527 subjects completing the FAS-DIS mail-out questionnaires, 83% were white, the average age was 39.95 (SD = 9.98), 44% were male, and 56% were female.

Exploratory Factor Analysis. — FAS scores were subjected to a factor analysis employing a principal components analysis followed by Varimax rotation (Gorsuch, 1983), the same analysis carried out by Cicirelli (1988) on his data. The factor analysis yielded two factors with eigenvalues greater than 1.0 that accounted for 55.2% of the variance. While the criterion for loading was a value of .35, all loadings were .50 or higher. Factor loadings for the two factors, along with the factor loadings from Cicirelli’s 1988 study, are shown in Table 2.

Internal consistency (Cronbach’s alpha) reliability coefficients were calculated for the FAA and FAB subscales. Correlations between the scores for FAA, which were obtained by summing items 1 through 7, and for FAB, which were obtained by summing items 8 through 13, were calculated. Internal consistency (Cronbach’s alpha) reliabilities were .86 for FAA and .78 for FAB. These values were quite similar to those of Cicirelli, who reported alpha values of .88 for FAA and .77 for FAB. Mean scores on the FAA and FAB were 16.9 (SD = 6.5) and 19.3 (SD = 5.3) respectively, with a correlation of .16 (p < .105). These scores also did not differ significantly from those reported by Cicirelli (1988).

Confirmatory Factor Analysis. — A confirmatory factor analysis (Baldwin, 1989; Bentler, 1980; Long, 1983) employing the LISREL measurement model was carried out. The results of the confirmatory factor analysis are shown in Table 2. The total coefficient of determination was .951, while the goodness of fit was .877. The chi-square/degrees-of-freedom ratio was 5.112, with

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Note: Confirmatory-Analysis Statistics: Goodness of fit index = .912; Adjusted goodness of fit index = .877; Total coefficient of determination = .951; Root mean square residual = .130; Chi-square/df = 5.112; p < .001.
p < .001. While the chi-square ratio is somewhat high, these findings suggest there are two basic factors of the FAS.

Conclusions

FAS and FAB scores exhibited low but significant correlations with T-Anxiety scores, and high and significant correlations with S-Anxiety scores related to the care of mothers and fathers. Recall that trait anxiety reflects the static state of the individual, whereas state anxiety measures the dynamic state of the individual, with changes such as those suggested in the FAS readily reflected in S-Anxiety scores.

Results reveal that as an adult child’s anxiety increases in regards to one’s ability to take on a caregiving role for an elderly parent, concern around social approval decreases. This is comparable to behavioral interventions that recognize that one cannot be both anxious and relaxed simultaneously, and a person also cannot be engaged intrapersonally and interpersonally simultaneously.

Results also indicate that concern over social approval is unrelated to an individual’s anxiety regarding the increasing frailty of an aging parent. Although both are oriented toward the external environment, the two are dissimilar enough to be unrelated, evidencing different affective states. Also, results reveal a statistically significant difference between the correlations of FAA/MSD and FAB/MSD, indicating that different factors are present in the FAS that are measuring different types of anxiety.

Nonsignificant correlations between FAA scores and FAB scores suggest that concerns about oneself in terms of caregiving are not correlated with concerns about one’s aging parent’s physical decline.

The study of the impact of caregiving responsibilities for aging parents upon adult children is an area of rapidly expanding research. Ideally, an experimental design other than the survey method this study utilized will eventually be attempted to allow for increased confidence of results. Additionally, a sample more representative than the present one and with a greater breakdown by age group would also be helpful. The need for information that will contribute to the development of effective intervention strategies and more effective policy formulations (Miller, 1989) is pressing. Frequently, instruments designed for the purpose of assessing various aspects of caregivers’ responses to the burdens of caregiving have good face validity, but are put into use before convincing reliability and validity studies have been carried out. The FAS, however, has been advanced as a promising research instrument with the initial study devoted primarily to the demonstration of its having sound psychometric properties. The results of this study offer an additional demonstration of such soundness. The FAS is an economical test instrument having a stable factor structure and measures in a consistent manner across a variety of populations. Cicirelli’s (1988) assertion that the FAS can prove useful in determining the relationship of filial anxiety to an adult child’s caregiving behavior appears warranted, as does his call for additional study of the validity of the scale.

References


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