The Family APGAR Index: A Study of Construct Validity

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The Family APGAR Questionnaire was designed for use by physicians in a setting where time constraints require a utilitarian instrument to evaluate family function. This paper reports a validity study of the Family APGAR Questionnaire in which the instrument's index (score) was compared with the scores of an established family function test and of clinical therapists. The correlations obtained suggest that the Family APGAR Index is a valid measure of family function and a useful instrument for clinical practice and research.

In a recent issue of this *Journal*,[1] Smilkstein described the Family APGAR Questionnaire, developed to measure family function, and suggested uses for the questionnaire by family physicians. In this paper the authors report a study considering the validity of the questionnaire. The findings are interpreted not only to indicate that the Family APGAR is an appropriate tool for family physicians to use in screening their clients for family difficulties, but also to suggest that it may be a useful instrument for research.

Many instruments have been designed to measure family function. A number focus on the marital relationship in general[2,3] or on particular aspects of the husband-wife relationship, such as communication,[4,5] decision making,[6] or parental roles.[7,8] Others assess family function to include the perspective of children[9,10] or adults.[11-15] Many of these instruments are long, complex, and relatively time consuming.[11-14] The Family APGAR was developed as a multidimensional measure of global family function. It was designed to be short, easy to score, and suitable for diverse family constellations, in addition to traditional nuclear families.

The questions (items) in the Family APGAR are designed to permit qualitative measurement of a family member's satisfaction with five components of family function identified as Adaptation, Partnership, Growth, Affection, and Resolve.[1] Each of the five items is scored on a three-point scale: 0=hardly ever, 1=some of the time, and 2=almost always. The total score is the sum of the five items with a range of 0 to 10.

The goal of the present study was to test the validity of the Family APGAR Index. The Family APGAR Questionnaire was administered to two samples believed to have relatively high and relatively low family function, respectively. Scores obtained on the Family APGAR were compared with scores on two other measures of family function—a family function test with established validity and reliability, and an evaluation of family function by clinical therapists.

The established family function test chosen for comparison with the Family APGAR was the Family Function Index (FFI) of Pless and Satterwhite.[16,17] It consists of 15 questions and estimates

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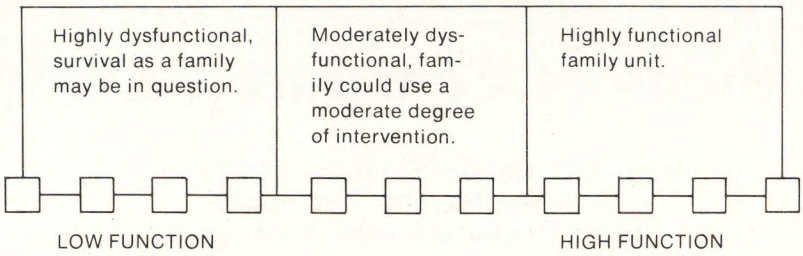

Please rate this patient's family unit on the above crude scale by putting an X in the appropriate box. Make any comments in the space below. All comments would be appreciated.

Figure 1. Therapist's Questionnaire

family function by evaluating areas of nuclear family interaction such as marital satisfaction, frequency of disagreement, communication, problem solving, and feelings of happiness and closeness.

The second measure chosen for comparison with the Family APGAR was the evaluation of family function by clinical therapists. These therapists had met with their patients an average of 5.5 times during the preceding year, and all patients had spent a minimum of one hour with the therapist. The therapists rated their patients' families on a 10-point scale, from highly dysfunctional (0-3), to moderately dysfunctional (4-6), to highly functional (7-10) (Figure 1).

The definition of family used for this study is a psychosocial group, consisting of the patient (questionnaire respondent) and one or more persons, children or adults, in which there is a commitment for members to nurture each other.

The Sample Population

A nonclinical group of "normal" families and a clinical group of psychiatric outpatients were sampled in the development of the Family APGAR Index. The nonclinical group (n=38) were adults who lived in a married students' housing unit designed for families with children at the University of California, Davis. The mean age of this group was 28.3 (sd=4.0, n=24) for females and 28.6 (sd=5.9, n=14) for males. Thirty-three respondents were living with spouses, five were divorced or separated. The divorced or separated respondents qualified as family members, since their family unit consisted of an adult and child(ren). Many nonclinical respondents filled multiple roles as parents, spouses, students, homemakers, and workers.

The clinical subjects (n=20) were adult outpatients at a community mental health center in Sacramento. The mean age of the clinical sample was 32.0 (sd=5.6, n=13) for females and 33.0 (sd=8.0, n=7) for males. Six respondents were married, seven were divorced or separated, and seven were single. Those clinical subjects who did not have their own families (of procreation), identified with their families of origin. Ten identified themselves as employed, six as unemployed, seven as homemakers, and four as students. Fewer subjects in the clinical group than in the nonclinical group filled multiple roles.

Hypotheses

The construct validity of the Family APGAR Index was developed by testing several hypotheses. First, it was hypothesized that the clinical sample would have a lower Family APGAR score than the nonclinical sample. Secondly, it was hypothesized that the nonclinical group's scores on the Family APGAR would correlate significantly

with their scores on the previously validated Pless-Satterwhite questionnaire. Thirdly, it was hypothesized that the clinical sample's Family APGAR scores would correlate highly with their therapists' evaluations of their family function And fourthly, it was hypothesized that Family APGAR scores of spouses in the nonclinical group would strongly correlate, thus supporting the instrument's validity as a measure of family unit functioning.

Procedures

The Family APGAR Questionnaire was administered to both the clinical and nonclinical samples. Subjects were told the purpose of the questionnaire but their responses were entered on the questionnaire without the assistance of the invesitgators or the therapists. The Pless-Satterwhite questionnaire was also administered to those subjects in the nonclinical groups who were living with a spouse (n=33). Nineteen subjects from the clinical group were evaluated by their therapists for family function.

Findings

1. The Family APGAR Index

The Family APGAR Index is intended to measure five basic components of family function. There was a low to moderate internal consistency between the five items of the APGAR Index for each sampled group. Inter-item correlation ranged from r=.24 to r=.67. The correlation between the scores on items 1, 3, and 5 and items 2 and 4 provided a split-half reliability index of r=.93 for the combined sample of clinical and nonclinical subjects.

2. Validity Measures

As hypothesized, there was a significant difference between the Family APGAR scores of the clinical and nonclinical groups (Table 1). Out of a possible total score of 10, the mean score was 8.24 for the nonclinical group and 5.89 for the clinical group. With the exception of item 5 (satisfaction with time spent with family), the nonclinical group scored significantly higher on each item than did the clinical group.

Thirty-three respondents in the nonclinical group completed both the Family APGAR and the Pless-Satterwhite questionnaire. There was a strong correlation of .80 between the Family APGAR Index score and the Pless-Satterwhite score. A moderate correlation of .64 between the Family APGAR Index score and the therapists' family evaluation score was attained for the clinical group.

The scores of husbands and wives in the nonclinical group were compared to assess the validity of the Family APGAR as a measure of family function. Twenty-two respondents were included in the comparison of husband-wife scores on the Pless-Satterwhite and Family APGAR questionnaires. The inter-spouse correlation was .65 for the Pless-Satterwhite scores and .67 for the Family APGAR scores.

Discussion

The data suggest that the Family APGAR has the methodological basis for being a useful screening instrument for family function, applicable to the range of family units commonly seen in family practice. In this study, it successfully discriminated between the "normal" families in a nonclinical sample and the clinical sample. In particular, Family APGAR scores showed a high correlation with the Pless-Satterwhite scores for the normal population. The interspouse correlation for the Family APGAR (.67) was higher than that reported for the Pless-Satterwhite scores (.65), providing further support for construct validity.

One of the strengths of the Index as a measure of family function is demonstrated by the total score of the five items, which correlated higher with the Pless-Satterwhite and therapists' measure of family function than did any individual item in the APGAR Index.

Further research is needed to determine why scores on question five (time spent with family) were lower for nonclinical respondents and spouses than for the clinical sample, and correlated relatively low with scores on other questions. This may correctly reflect that time demands of students strain family function; alternatively, a desire to spend more time with one's family may be a positive indicator of family function. In future tests of the Index, item five will be altered to emphasize satisfaction with the quality rather than with the quantity of time spent with

Table 1. Comparison of Nonclinical and Clinical Groups: Family APGAR Scores

Family APGAR Index

Total mean score range=0-10
Individual item score range=0-2

	Nonclinical	Clinical	T-Test
	Total Mean Score		
	8.24	5.89	(t(1)=3.43 P<.001)
	Individual Item Score		
Family APGAR Items			
1. Adaptation—family resources available for coping	1.74	1.11	(t(1)=3.43 P<.001)
2. Partnership—problem sharing	1.61	1.16	(t(1)=2.72 P<.001)
3. Growth—acceptance of change	1.82	0.95	(t(1)=4.24 P<.001)
4. Affection—expression of affection and response to feelings	1.68	1.16	(t(1)=2.51 P<.01)
5. Resolve—time spent with family	1.39	1.53	(t(1)=0.75 P:ns)

one's family. Reliability studies are also being undertaken to ascertain the reproducibility of the Index. In addition, it should be cautioned that the Index has thus far been validated largely on young, student families. It is necessary, therefore, to further validate the instrument on other types of family units, including individuals from varied socioeconomic, ethnic, and religious groups.

The Family APGAR has the distinct advantage for use in family practice of being short and easy to score. It is not limited in its definition of "family" to married couples and their children, a traditional and culture-bound definition of the family that excludes many seen in practice. Three cases illustrate the types of families in this study and the way they scored on the family function measures.

Case 1

The first was a highly functional family from the married student (nonclinical) sample.

The demands of the graduate student role and the constraints such a role places on joint family activities were apparent in the following case of a 26-year-old married male student with two young children. The respondent felt his family got along "very well." He scored 9 on the Family APGAR (range 0-10), and scored the highest score possible, 30, on the Pless-Satterwhite questionnaire. He noted that he had "too little time (with his family) due to school and work" during the academic year, but that summers "were great" because he spent more time with his wife and children. He commented that "I feel...a family is a very impor-

tant means of contribution and learning, that it is a unique experience.'' A family crisis—an acute and serious illness of the youngest child, age nine months—offered the father an opportunity to justify spending more time with his family. In his perception, his child's illness brought the family closer together, both at the time of the crisis and after its resolution. This student's family had a significant support network that included his parents, his wife's parents, and their religious community of friends from church. All were called upon for help during the child's illness. Despite this subject's dissatisfaction with the amount of time he spent with his wife and children, he was highly satisfied with the rest of his relationship and clearly was committed to preserving and developing a strong family unit.

His wife, who was also interviewed, felt that her family got along ''very well.'' She was not a student, but worked as a babysitter part-time. She scored somewhat lower on the Family APGAR, an 8, and on the Pless-Satterwhite Index, a 25. Her dissatisfactions also revolved around the limited amount of time she and her husband spent together. She noted that although she was unhappy with the demands her husband's student role made on his time, she had to accept these constraints because it was part of their ''agreement.'' She also felt less satisfied (scored 1) than her husband did with the degree of partnership and shared problem solving. Her perception of the long-term effects of the family crisis, the child's illness, varied from her husband's. She commented that the crisis brought them closer at the time of the illness, but she did not foresee long-term effects, although her husband, she said, ''intends to spend more time with the baby.'' Her commitment to developing a strong family unit was equal to her husband's. She noted that they have a family meeting each week that is directed to such ends. Both partners claimed they were happier and closer than other families they knew.

Case 2

The second case was a low function family, as measured by the Family APGAR and Pless-Satterwhite instruments.

Dissatisfaction with one's family life and marriage is often attributed to role demands outside the marriage. Married graduate students frequently blame the demands of the student role for their marital problems. The following case examines the responses of a husband and wife who are considering separation. The wife is a 32-year-old graduate student who is employed part-time. She has been married for 11 years and has a nine-year-old boy. The major problem with family life, she said, is that both she and her husband are students and have been since they were married. She claimed ''we are both tired of being in school.'' She scored 4 on the Family APGAR and 21.5 on the Pless-Satterwhite questionnaire.

She scored 0 on satisfaction with time spent with family, with child, and with spouse, and 1 on each of the other questions. She noted that her son was unhappy when she took a job that further limited her time with him. She also remarked that she and her son take vacations without her husband. In recounting family crises, she commented that financial difficulties drove her and her spouse further apart. She intended to leave home during the summer for two and a half months to take an academic teaching job and to think about family priorities. Her husband was planning to stay home with the child while his wife was away. No immediate resolution of these family crises was foreseeable at the time of the interview.

This subject's husband scored significantly higher on the Family APGAR (8) and Pless-Satterwhite (27) than did his wife. This response suggests some denial of family difficulties. When asked about family crises, he noted that a chronic problem was their lack of time for family life. He also commented that he was not very verbal and had discussed the problem only with his wife. She, on the other hand, had seen a campus counselor 12 times in the last year. He felt there was no resolution to the problem, however, and that it was driving him and his wife further apart. Thus, mixed messages were received from this respondent. His wife was more consistently pessimistic about the marriage than he was, yet he too indicated concern about the outcome of the family's ''chronic'' problem.

Case 3

A third case illustrates a family from the clinical sample that scored low on the Family APGAR Index and was rated moderately dysfunctional by the therapist.

A 35-year-old married woman with two chil-

dren, ages six and ten, scored 3 on the Family APGAR. Her dissatisfaction with family life focused on her husband's lack of support for her activities and her perception that he was slow to show affection. She also felt her children, while supportive, could not meet all her needs. She made the following comments on the questionnaire in response to the five APGAR questions on general family function:

"No one takes me seriously or understands me or my needs and talents...the children are very good about talking things over with me. B. (Husband) and I have always had a (poor) communication gap...we are all very wrapped up in our own life style...we are all set in our ways. B. is very slow to show affection to me and the kids. It's hard to be responded to by just the kids. Spending time together is fine, but like everything else it could be overdone. I'll admit I stay with my family a lot more than I did some time ago. And I really enjoy our times together because we know each other better, and with all the danger outside your door now days, I would rather be with them—*sometimes*. I'm sure the kids feel the same way. They like being with the family because they are young and yet they sure love their individual freedom and privacy. (My husband) doesn't go along with this way of thinking at all.

This respondent's therapist evaluated the family as moderately dysfunctional, a score of five.

Conclusions

The present study suggests that the Family APGAR Questionnaire serves as an indicator of family function. The instrument should be considered as a guide to therapeutic intervention where "family" is part of the problem. In a primary care setting the Family APGAR may be given to patients at the time of an intake work-up, at the time of a family crisis when knowledge of family function is needed, or as a follow-up after an intervention program has been completed and "family" reassessment is needed.

Perhaps the greatest value of this instrument is on initial intakes for all patients. It would provide the family physician with information indicating any necessary areas of follow-up. A study is in progress comparing the usefulness of this Index with the family physician's typical "work-up" of a family.

The future holds promise for the use of the Family APGAR Questionnaire as a utilitarian research instrument. Studies with the Family APGAR are now underway to identify the level of family function in such problems as obesity and sexual dysfunction where family function is thought to be a critical variable in determining the outcome of therapeutic intervention.

In summary, the Family APGAR Index appears to be a valid measure of family function, and a useful instrument for clinical practice and research.

References

1. Smilkstein G: The family APGAR: A proposal for a family function test and its use by physicians. J Fam Pract 6:1231, 1978
2. Bowerman CE: Adjustment in marriage: Overall and in specific areas. Sociol Soc Res 41:257, 1957
3. Buerkle JV, Badgley RF: Couple role taking: The Yale Marital Interaction Battery. Marriage Fam Liv 21:53, 1959
4. Hobart CW, Klausner WJ: Some social interactional correlates of marital role disagreement and marital adjustment. Marriage Fam Liv 21:256, 1959
5. Karlsson G: Adaptability and communication in marriage: A Swedish predictive study of marital satisfaction. Uppsala, Almquist and Wiksells, 1951
6. Blood RO Jr, Wolfe DM: Husbands and wives: The dynamics of married living. Glencoe, Ill, Free Press, 1960
7. Hoffman ML: An interview method for obtaining descriptions of parent-child interaction. Merrill-Palmer 4:76, 1957
8. Meyer MM, Tolman RS: Correspondence between attitudes and images of parental figures in TAT stories and in therapeutic interviews. J Consult Psychol 19:79, 1955
9. Bronfenbrenner U: Toward a theoretical model for the analysis of parent-child relationships in a social context. In Glidewell JC (ed): Parental Attitudes and Child Behavior. Springfield, Ill, Charles C Thomas, 1961
10. Brown AW, Morrison J, Couch GB: Influence of affectional family relationships on character development. J Abnorm Soc Psychol 42:422, 1947
11. Myers TR: Intra-family relationships and pupil adjustment. New York, Columbia University's Teacher's College: Contributions to Education, 1940, No.651
12. Geismar LL, LaSorte MA, Ayres B: Measuring family disorganization. Marriage Fam Liv 24:51, 1962
13. Cavan R, Ranck K: The family depression. Chicago,University of Chicago Press, 1938
14. Brim OG Jr, Fairchild RW, Borgatta EF: Relations between family problems. Marriage Fam Liv 23:219, 1961
15. MacFarlane JW: Studies in child guidance: Part 1: Methodology of data collection and organization. Monogr Soc Res Child Dev 3(6):99-117, 166-177, 1938
16. Pless IB, Satterwhite B: A measure of family functioning and its application. Soc Sci Med 7:613, 1973
17. Pless IB, Satterwhite B: Family function and family problems. In Haggarty RJ, Roughman KJ, Pless IB (eds): Child Health and the Community. New York, John Wiley and Sons, 1975