

Feetham Family Functioning Survey (FFFS) (prepared by Suzanne Feetham, PhD, RN, FAAN)

Title of Measure: Feetham Family Functioning Survey (FFFS)

Website: There is currently not a website

Reference for original article describing how the measure was developed and tested:

- Roberts, C. S., & Feetham, S. L. (1982). Assessing family functioning across three areas of relationships. *Nursing Research*, 31(4), 231-235. <http://dx.doi.org/10.1097/00006199-198207000-00011>
 - Scopus reported 86 articles citing the 1982 publication. Publications from 1985 to 2018 from US, Japan and other countries is in 96th percentile in nursing for similar publications

Purpose/Background:

- **Purpose:** The 21 item FFFS was developed in 1977 to measure three areas of family functioning the relationship between family and the individual, the relationship between family and society, and the relationship between family and subsystem areas that can be affected in families of children with health problems. The existing measures of family functioning at the time and continuing today focus on the area of relationships between the family and each individual, particularly the spouse/partner such as measures of cohesion, flexibility, communication and decision making.
- **Background:**

At the time of its development the available measures on family functions only measured the couple dyad. With the limitations of these measures, a comprehensive review of the family science literature was conducted to identify the family functions to be included in the measure. The functions on the measure represent the functions of all families across cultures and structures. The Porter scale was applied from the experiences of scientists in the Center for Health Research at Wayne State College of Nursing. By asking how much is there and how much should there be for each function, the measure is culture and function neutral as it measures the expectation of the respondent and the value is not interpreted by the researcher. For example, item 5 on neighbors, one respondent had just moved to a new area therefore she answered how much is there as 1, how much should there be as 1. If the measure asked only how much is there and the response was 1 a researcher could interpret this as an issue with the respondent. The measure was revised to not limit its use to families of children with health problems.

Psychometrics:

- **Reliability:** The reliability was tested in cross-sectional and longitudinal studies. Reliability estimates in a study of 103 mothers of children with myelodysplasia was .81 and test retest at two weeks was .85 (Roberts & Feetham, 1982).
- **Validity:** Five processes contributed to content validity. The FFFS items were identified from systematic review of the family science family functioning literature, studies of families of children with chronic health problems and clinical observations of families of children with myelodysplasia. Items were reviewed by experts in care of children with chronic health problems and in family theory. Pretesting of the FFFS was followed by discussion with the parents.
- **Reliability and Validity of Japanese and Chinese versions of FFFS**
 - In 2000, Hohashi and colleagues published a report of the Japanese translation of the FFFS. The validity and reliability of the FFFS-J has been reported in research on childrearing Japanese families. In studies reported in 2000, 2008, 2011, 2012, 2014

- by Hohashi, Honda and colleagues the Cronbach α score for the discrepant (d) score ranged from 0.80 in an instrument development study and 0.83 in another study, indicating a high level of internal consistency.
- In 2008 Hohashi and colleagues published on the Chinese translation of the FFFS. The reliabilities (Cronbach's α) of the original vs. Chinese version of the FFFS for the three dimensions were 0.83 vs. 0.89, 0.74 vs. 0.77, and 0.72 vs. 0.73, respectively.
 - **Concurrent validity:** See the Roberts and Feetham (1982) publication for a full description of the concurrent and face reliability
 - Concurrent validity was conducted as existing family functioning measures did not measure two of the three areas of family functioning. The FFFS was administered with the Family Functioning Index (FFI) to 103 mothers. The FFI examines intra-family activities of role function, marital relations and communication patterns. Roberts and Feetham (1982) using varimax rotation reported three factors 1) Relationship between family and the individual, 2) Relationship between family and society, 3) Relationship between family and subsystem and factor. When factor analysis is conducted these three factors are consistently reported.
 - In a Japanese study using the FFFS, Okuno and colleagues (2016) reported out the data in four factors. The three factors reported in publications by Feetham and others and a fourth factor illness and worries.
 - Change in family function has been reported in an intervention study on use of telehealth in Taiwan. Family function significantly improved within pretest and posttest ($F_w = 7.40$, $p < 0.001$) as shown by the FFFS scores for the comparison and experimental group (Chiang, Chen, Dai, & Ho, 2012). The experimental group improved significantly more than the comparison group on the FFFS subscale scores for "relationships between family and subsystems" ($F_{in} = 1.500$, $p = 0.007$) and "relationships between family and society" ($F_{in} = 3.733$, $p < 0.001$). Telehealth care had no significant effect on relationships between the family and family members ($F_{in} = 0.533$, $p = 0.295$) (Table 2 and Fig. 4).
 - The format for the FFFS questions and the scoring were applied from the research of Porter (1962, 1963). Review of these publications adds to the understanding of the strengths and scoring of the FFFS.
 - Porter, LW (1962) Job attitudes in management: I. Perceived deficiencies in need fulfillment as a function of job level. *Journal of Applied Psychology*, 46 (6): 375-385. <https://psycnet.apa.org/doi/10.1037/h0047808>
 - Porter, LW (1963) Job attitudes in management: II. Perceived importance of need as a function of job level. *Journal of Applied Psychology*, 47(2), 141-148. <https://doi.org/10.1037/h0041677>
 - Porter, LW (1963) Job attitudes in management: III. Perceived deficiencies in need fulfillment as a function of line versus staff type of job. *Journal of Applied Psychology*, 47(3), 267-275. <https://doi.org/10.1037/h0041712>

Scoring Procedures:

- The score for the Feetham Family Functioning Survey is calculated by determining a total family functioning discrepancy score based on summing scores from the individual items. The discrepancy score for each item is calculated by determining the difference between each A and B score for each item which is converted to an absolute score. The absolute scores for each item are summed for the instrument score for each respondent. The instrument scores tend to range from 17 – 35. The importance score is not included in the instrument score. The higher the score indicates a higher discrepancy between the respondents' expectation of what is from their perception of what should be for a family function.

- In addition to the total discrepant score, other scoring procedures can be conducted based on the research question. For example, if family members perceive that there is too much or too little of a function, this information may be significant for the research question. In this case, the individual item scores can be left as positive or negative scores and exploratory analysis may be used to examine the differences between partners.
- From a clinical perspective the importance score can indicate areas for intervention. For example, a family member may have a high discrepant score (A-B) on items related to expectations of family or spouse/partner and a high importance score for these same items. Such high discrepancy scores and high importance scores for related items may indicate a need for further assessment and intervention.
- The instrument can be used to measure family functioning in single parent families. The respondent scores the spouse/partner related items in the context of expectation for a person in the spouse/partner role. For example, if the person does not expect to have someone in the spouse/partner role, then the A (how much is there?) is scored low and the B (how much should there be?) is scored low. This would result in a low or zero discrepant score for the spouse-related items. In contrast, a respondent could score the A (how much is there?) as low and the B (how much should there be?) as high. This would result in high discrepant scores for the spouse/partner items.
- If data are collected from more than one family member, it is recommended that dyadic/paired analysis be conducted to demonstrate differences among family members. Aggregate analysis between all mothers and fathers is not as informative in research of families.
- References for this analysis include:
 - Carroll, R. M., Shepard, M. P., Mahon, M. M., Moriarty, H. J., Feetham, S. L., & Orsi, A. J. (1999). Parent-teen worry about the teen contracting AIDS. *Western Journal of Nursing Research*, 21(2),135-142 <http://doi:10.1177/019394599902100205> PMID: 11512175.
 - Feetham, S., Perkins, M., Carroll, R. (1993). Exploratory analysis: A technique for analysis of dyadic data in research of families. In S. Feetham, S. Meister, J. Bell, & C. Gilliss. (Eds.), *Nursing of Families: Theory /Research /Education /Practice* (pp. 99-110). Newport CA. SAGE Publication
 - Knafl, G.J., Knafl, K.A., & McCorkle, R. (2005) Mixed models incorporating intra-familial correlation through spatial autoregression. *Research in Nursing and Health*. 28(4):348-56. <http://doi:10.1002/nur.20082>
 - Knafl, GJ, Dixon, J.K., O'Malley, J.P., Grey, M, Deatrck, J.A., Gallo, A.M. & Knafl, K.A. (2009) Dyads Using Linear Mixed Modeling Analysis of Cross-Sectional Univariate Measurements for Family. *Journal of Family Nursing*, 15, 130- 151 <http://doi:10.1177/1074840709331641>

Populations the measure has been used with:

- The FFFS has been used in research of families with family members across the age spectrum with different developmental conditions, child and adult health conditions, normal family transitions such as over-seas work assignments and developing families and non-normal such high risk pregnancies, families with members with acute and chronic health problems.

Languages the measure is available in: Researchers in the United States, United Kingdom, Japan, Africa and Australia report translations of the FFFS in English, Spanish, Russian, Bosnian, Kosovo, Japanese, American Sign Language and Chinese (main land and Taiwan)

Strengths and Limitations of the Measure:

- **Strengths:**

- Existing measures of family functioning at the time and continuing today focus on the area of relationships between the family and each individual, particularly the spouse/partner such as measures of cohesion, flexibility, communication, and decision making. A strength of the FFFS is that it measures the relationship between family and the individual, the relationship between family and society, and the relationship between family and subsystem areas that can be affected in families of children with health problems.
- Another strength of the FFFS is the use of the Porter format where the respondent reports what is the status of a family function (how much is there) the expected --- of the family function (how much should there be) and the importance of the function. It is noted by sociologists that the Porter format enables the measure to be relevant in different cultures where the amount that should be of a family function is reported accounting for cultural differences. It has been reported by researchers that respondents comment that they like that they are asked for both how much is there and how much should there be.
- Change over time in family functioning can be measured by the FFFS. In a study of 102 parents of 70 infants with myelodysplasia, studied from birth through 18 months, there was a pattern of an increase in family functioning discrepant score for both parents and increasing difference between mother and father scores at each of five time periods (Feetham, 1981).
- **Comments from researcher using the FFFS:** *Last year, I have your permission to use the FFFS to explore the family caregivers' responses after their families admit the intensive care unit with traumatic disease. Two different scoring methods were used to analysis the data by multiple regression. I still found the best model was applied the real perception of family function of caregivers (not the score a minus b). Maybe the original scoring was designed to understand the gap of the expectation and real, then family nurse could promote family therapy for them to self-reflection their own problem. But in the case-control study or the randomized controlled trial, what we want to know is the real perception of the family function (relationship) that they felt.*
- *Although there are many facets of family function, the FFFS was an excellent tool to explore the perception of the relationship inside family members, subsystem, and outside society. I preferred to applied the transition theory of Meleis in my study, and the FFFS is the very appropriate to measure the relationship of family members.*

- **Limitations:**

In initial use, a father reported the measure was confusing to answer the 3 questions for each item. With guidance the father completed the survey at time 1, 2 and 3. For persons with low literacy not familiar with scales, a researcher found by using a ruler the respondent could point to a number on the scale.

- **References for articles discussing strengths and limitations of the measure:**

- Brady, N (1999) Instruments for research with families. The Family Environment Scale (FES and Feetham's Family Functioning survey (FFFS). *Journal of Child and Family nursing Jan-Feb;2(1):63-7* PMID: 10639917
- Sawin, K.J. (2016) Measurement in Family Nursing: Established Instruments and New Directions. *Journal of Family Nursing, 22(3):287-97.*
<http://doi:10.1177/1074840716656038>
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Measures of family functioning for research and practice (pp. 42-49). New York: Springer Publishing CO.

APA link about measure <https://psycnet.apa.org/doiLanding?doi=10.1037%2Ft49460-000>

References for articles by IFNA members and others who have used the measure:

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- Hohashi N, & Honda J. (2011). Family functioning of child-rearing Japanese families on family-accompanied work assignments in Hong Kong. *Journal of Family Nursing*, 17(4), 485-501. <http://doi:10.1177/1074840711424284> PMID: 22084484
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- Hohashi, N., Honda, J., & Kong, S. K. (2008). Validity and reliability of the Chinese version of the Feetham Family Functioning Survey (FFFS). *Journal of Family Nursing*, 14(2), 201–223. <https://doi.org/10.1177/1074840708315967>
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