

Family Adjustment Measure (FAM): Scale Construction and Preliminary Validation.

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Background

Although research exists on family and relational adjustment of parents of children with special needs, no formal assessment measure exists. This exposes a gap in this area of marriage and family research that warrants this study. The goal of the Family Adjustment Measure Project is to develop and validate an assessment measure for use with parents of children with special needs.

Research Questions include:

1. How many different factors are needed to explain the pattern of relationships among the 75 items on the Family Adjustment Measure?
2. What is the nature of those factors?
3. What relationship exists between these factors and the Relationship Assessment Scale and the Perceived Stress Scale?

Methods

1. Following the preliminary analysis of the FAM, we continued to collect data online totaling 368 parents of children with special needs. Upon consent online participants completed: (a) The FAM Informational Questionnaire, (b) the 75-item Family Adjustment Measure, (c) the seven-item Relationship Assessment Scale, and (d) the 10-item Perceived Stress Scale
2. After data collection, we exported our data into SPSS.
3. Phase 1 of the statistical analyses consisted of randomly splitting the participants into two samples (A & B), and conducting an Exploratory Factor Analysis on Sample A.
4. Phase 2 of the statistical analyses included conducting a Confirmatory Factor Analysis on Sample B using the items that loaded in Phase 1.

References

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The PSS Scale is reprinted with permission of the American Sociological Association, from Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*, 386-396.

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Discussion

The 75 items on the Family Adjustment Measure (FAM) were refined and reduced to a smaller number of coherent subscales using Principle Components of Analysis (PCA). Phase 1 of the statistical analyses consisted of randomly splitting the sample to perform an Exploratory Factor Analysis. Prior to performing the Exploratory Factor Analysis, the suitability of the data for the first half of the sample was assessed. The Kaiser-Meyer-Okin (KMO) value was .85, meeting the recommended value (Kaiser, 1970, 1974), and Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance, supporting factorability of the correlation matrix.

Exploratory factor analysis showed 18 components with eigenvalues above 1 that explained up to 71.69% of the cumulative variance. The scree plot revealed a break between the 5th and 6th component. We decided to use five components for further investigation based on visual inspection of Catell's (1966) scree test and variance explained by the components. The five components represented 47.59% of the variance, with components 1, 2, 3, 4, and 5 contributing 22.82%, 9.99%, 7.29%, 4.06%, and 3.43% respectively. Varimax rotation was used to interpret the components, showing 46 items from the FAM loaded strongly on each component.

The purpose of Phase 2 was to subject the 46-item scale to a new factor analysis using the remaining half of the sample. The Confirmatory Factor Analysis passed the KMO and Bartlett's tests and showed 10 components with eigenvalues over 1. Based on the review of the scree plot and cumulative variance explained we chose to continue investigating five components. The five components represented 56.03% of the cumulative variance, with components 1, 2, 3, 4, and 5 contributing 24.36%, 11.48%, 9.21%, 5.75%, and 5.24% respectively. Varimax rotation was performed to help interpret these five components. The rotation showed 35 items from FAM loaded strongly on five components. Based on analysis of the items that loaded on each scale, the following names were given for the subscales: Parental Distress, Social Support, Family-Based Support, Positive Coping Skills, and Professional Support.

Concurrent validity was used to establish how well our new subscales correlated with previously validated assessments. The Relationship Assessment Scale positively correlated with the FAM Family-Based Support subscale ($r = .79$). Also, the Perceived Stress Scale positively correlated with the FAM Parental Distress subscale ($r = .56$).

Conclusion

Exploratory factor analysis of the Family Adjustment Measure yielded five subscales that explained 47.59% of the variance. Using the items that loaded strongly in Phase 1 we conducted a Confirmatory factor analysis to further refine and reduce the items. Phase 2 yielded five subscales (Parental Distress, Social Support, Family-Based Support, Positive Coping Skills, and Professional Support) that explained 56.03% of the variance.

The FAM Family-Based support subscale correlated highly with the Relationship Assessment Scale suggesting as relationship satisfaction increases, support within the family increases. The FAM Parental Distress subscale correlated highly with the Perceived Stress Scale suggesting that perceived stress indicates parental distress.

We will further validate the FAM into Summer 2011 and are also presenting results at the 13th annual Family Café Conference in June 2011.

Limitations

The current sample is fairly homogeneous with a disproportionate amount of middle-class, Caucasian females.

This study is a preliminary scale construction and validation of the data.

Abstract

The Family Adjustment Measure Project (FAM) aimed to develop and validate an adjustment measure specific to parents of children with special needs. Research indicates numerous strategies as key concepts for well-adjusted families of children identified with a disability. Although research exists on family and relational adjustment of parents of children with special needs, no formal assessment measure exists. This exposed a gap in this area of marriage and family research that warranted this study. Using SurveyMonkey.com, parents of at least one child with special needs and who were in a committed relationship were asked to complete the F.A.M., the Relationship Assessment Scale (RAS), and the Perceived Stress Scale (PSS). We collaborated with local and national listservs to reach parents of children with special needs that could participate in our survey. Since Fall 2009, 368 participants contributed complete data to the study. Exploratory and confirmatory factor analyses were conducted, which yielded five possible subscales (Parental Distress, Social Support, Family-Based Support, Coping Skills, and Professional Support) explaining 56.03% of the variance. The Relationship Assessment Scale (RAS: Hendrick, 1988), a valid and reliable measure of relationship satisfaction, and the Perceived Stress Scale (PSS: Cohen, 1983), a widely administered assessment that measures individual stress, were administered to establish concurrent validity. Concurrent validity was established between the FAM subscales, the RAS, and the PSS. Implications for future research and clinical practice are also presented.

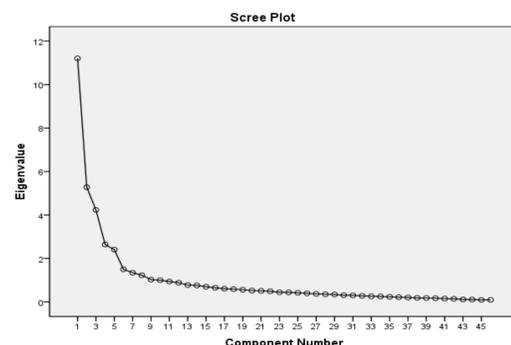
Results (Results of Phase 2)

Test	Value	Significance
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.842	
Bartlett's Test of Sphericity	Approx. Chi-Square	4790.13
	df	1035
	Sig.	.000

The Kaiser-Meyer-Olkin value was .84, meeting the recommended value and Bartlett's Test of Sphericity reached statistical significance, supporting factorability of the correlation matrix.

Component	Total	% of Variance	Cumulative %	Decision
1	11.21	24.34	24.36	Accept
2	5.28	11.48	35.84	Accept
3	4.24	9.21	45.04	Accept
4	2.64	5.75	50.79	Accept
5	2.41	5.24	56.03	Accept
6	1.50	3.27	59.29	Reject
7	1.35	2.93	62.22	Reject
8	1.23	2.68	64.90	Reject
9	1.03	2.23	67.13	Reject
10	1.00	2.18	69.31	Reject

Factor	Cronbach's Alpha Reliability	Questions
Factor 1: Parental Distress	.91	As a parent of a child with a disability I feel disappointment. As a parent of a child with a disability I feel numbness. As a parent of a child with a disability I feel angry. I feel depression because I have a child with a disability. As a parent of a child with a disability I feel burdened. I feel sadness because my child has a disability. As a parent of a child with a disability I feel frustration. I feel Devastated because I have a child with a disability. As a parent of a child with a disability I feel shock.
Factor 2: Social Support	.90	I participate in social support groups. Our family is involved in community activities. Social supports for my family have helped to reframe situations in a positive manner. Our family has resources for dealing with my child's disability. The identification of local resources helped me plan for my child's future. Social supports for my family have helped to eliminate stress. The identification of local and regional resources has helped me access services to help raise my child. I have social supports for my family. I realize/acknowledge that there are informational supports for me as a resource. Our family receives social support.
Factor 3: Family-Based Support	.89	We respect each other in our family. We deal with stress as a family. There is marital harmony in our family. There is loyalty in our family. I feel supported by my spouse, partner, or significant other. Our family has developed positive coping skills. We care about each other in our family.
Factor 4: Positive Coping Skills	.83	I actively seek information I need regarding my child's disability. I can communicate questions regarding my child's disability. I can communicate concerns regarding my child's disability. I know how to set priorities. I am organized when it comes to my child with a disability. I resolve issues regarding my child when they happen.
Factor 5: Professional Support	.91	Counseling has helped me to identify positive coping skills. My counselor helps me identify core problems and strategies to solve them. Counseling has helped me to develop active coping skills.



The scree plot revealed a break between the 5th and 6th component. With Catell's scree test, we decided to use five components for further investigation.

Descriptive Statistics

	Mean	Std. Deviation	N
RASTotalScore	19.6839	6.47523	348
PSSTotalScore	17.9856	6.94423	347
Parental Distress	12.9599	7.21697	349
Social Support	19.7650	8.34299	349
Family-Based Support	21.9198	4.88069	349
Positive Coping Skills	19.5272	3.52536	349
Professional Support	2.7794	3.26687	349

Concurrent Validity

Factor	RAS (N = 348)	PSS (N = 347)
Parental Distress	-.242	.562*
Social Support	.303*	-.360*
Family-Based Support	.793*	-.406*
Positive Coping Skills	.296*	-.331*
Professional Support	-.116	.062

* Sig. at the .01 level

Concurrent validity was used to establish how well our new subscales correlated with previously validated assessments.