

A Conceptual Analysis of the McMaster Family Assessment Device (FAD)

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Abstract

In the field of social sciences, the significance and utility of comprehensive family assessment instruments are becoming increasingly apparent. The McMaster Family Assessment Device (FAD) is an instrument that has demonstrated significant value in discerning and measuring family dynamics. This conceptual paper is devoted to a comprehensive analysis of the McMaster FAD, elucidating its applicability and utility within the realm of social science research. From January 2022 to January 2023, the authors examined 250 scholarly articles to gain an in-depth understanding of the application of the McMaster FAD as a tool for assessing family functioning within a systemic context. The FAD is comprised of sixty items that have been designed to capture the concepts of healthy and dysfunctional family functioning. Future research should concentrate on refining and adapting the FAD to better meet the requirements of a wide variety of family structures.

Keywords: Family, Family Assessment Device, Validity

Introduction

The role and significance of comprehensive family assessment tools in the realm of social sciences have never been more apparent. One such instrument that has demonstrated considerable value in understanding and gauging family dynamics is the McMaster Family Assessment Device (FAD). The present conceptual paper aims to critically examine the McMaster FAD, shedding light on its relevance, utility, and implications in contemporary research. Epstein, Baldwin, and Bishop created the FAD in 1983, and it has since gained recognition as a multidimensional tool that accurately captures the complex, nuanced interactions and dynamics of families (Beierlein et al., 2017). The FAD's utility in assessing the overall health and functioning of a family unit, as well as its ability to discern systemic patterns indicative of specific issues, makes it an invaluable instrument in social and behavioural science research.

This study will delve into the use of the McMaster FAD as a tool for measuring family functioning within a systemic context. Epstein et al (1983) developed the FAD as a screening instrument during the 1970s to assess and validate the concept of healthy versus unhealthy family functioning. The FAD questionnaire is designed based on the McMaster Model of Family Functioning, which employs the Family Systems Theory and has been extensively used across various psychiatric and family practise clinics to address the range of family functioning from healthy to pathological (Jona et al., 2017; Wan Zulkifli et al., 2017). This model posits that a family functions as an interconnected unit influencing each member's environment, and transactional patterns within the family system shape the behaviour of all family members.

Aim

This paper will critically examine the efficacy and relevance of FAD. In doing so, it will shed light on the FAD's versatility while also critiquing its potential limitations across different contexts. The aim of this paper is to contribute to the ongoing discourse surrounding the FAD and underscore the importance of continual assessment and refinement of such tools to ensure their ongoing relevance.

Objective

- To probe the components of the FAD.
- To review and critique the use of the FAD.

Literature Review

The FAD has significantly impacted the field of family functioning assessment. It has offered valuable insights into the complexities of family dynamics and provided an empirical basis for evaluating family health and resilience. Various research studies have examined the application of the FAD to investigate family dynamics within families with delinquent adolescents. A study conducted by Wan Zulkifli et al (2017) is particularly noteworthy in this respect, shedding light on the delicate dynamics within these families. Other researchers, including Pellerone et al (2017); Tsamparl et al (2018), have built upon this line of inquiry, revealing discrepancies between parents' and adolescents' perceptions of family functionality. These findings underscore the adaptability and sensitivity of the FAD in capturing the subtle dynamics within family structures.

In addition to understanding the challenges within family systems, a central theme emerging from recent research is the capacity of the FAD to provide a balanced view of family dynamics. This was highlighted in the work of Oltean et al (2020), who used the FAD to emphasise family resilience. Complementing this perspective, Haghighi et al (2023); Pak Gül et al (2022); Pourmovahed et al (2021) applied the FAD in assessing family-based treatments for couples in family therapy, effectively capturing the positive dynamics within these relationships. Additionally, Mutiah et al (2021) demonstrated the FAD's cultural adaptability by successfully applying it among Indonesian Muslim students, further attesting to its versatile application. The utility of the FAD extends to the Malaysian context, where it has proven a valid and reliable tool for assessing family functioning. As per the findings of Cong et al (2022), the two-factor model comprising six components of the FAD appeared to be the most suitable for Malaysian samples. Furthering this research, Babar et al (2021) conducted an investigation into the psychometrics of the FAD. Their findings confirmed that the Malay translation of the FAD exhibits suitable psychometric properties for measuring family functioning within Malay-speaking populations.

The FAD has emerged as a crucial instrument for exploring the nuances of family dynamics, especially within the scope of substance abuse. The various research studies reviewed throughout this essay collectively illustrate the FAD's comprehensive approach to assessing family functioning, demonstrating its adaptability across different populations and sociocultural contexts (Van Fossen et al., 2022). Empirical findings have established the FAD's effectiveness in capturing the complexities within families dealing with adolescent delinquency and parental substance abuse. Notably, the research emphasises the FAD's potential to provide a balanced perspective, capturing both challenges and resilience within family systems. Further, studies have shown the FAD's strength in discerning between different perceptions of family functionality among family members, adding depth to our understanding of family dynamics.

Theoretical Framework: The Family Systems Theory

The Family Systems Theory is one of the theories of human behaviour that argues families need to be considered systems where every individual in the family is interconnected with one another. Any disruption or imbalance in one family member affects the whole (Weeland et al., 2021). This theory has been used to explore the issues of marriage aggression and parent-to-child abuse (Asare-Doku et al., 2017), job decisions for young adults in families (Bortz et al., 2019), and families with members with intellectual impairment (Lee et al., 2020). The Family Systems Theory-based FAD assesses family structure, organisation, and behaviour. It illuminates family health, resilience, and the effects of disruptions like substance misuse by systematically collecting family interactions. This integrated study, assisted by the FAD, parallels the holistic view stressed by the Family Systems Theory, hence strengthening its value in the discovery and assessment of family functioning. There are three interrelated notions in Family Systems Theory that have been integrated into McMaster FAD: triangles, nuclear family emotional systems, and emotional cutoffs.

The nuclear family emotional system describes four relationship patterns that can indicate family problems: marital conflict, dysfunction in one spouse, impairment of one or more children, and emotional distance. These partnerships will result in significant tensions or conflicts. When the stress or anxiety level grows, clinical problems or symptoms will form depending on the most active patterns (Petren & Puhlman, 2021). When one partner controls the other and the other refuses to comply, marital conflict will result. The second connection pattern is that partner dysfunction can damage family systems (citation). Depression can cause family stress. This dysfunction will disrupt family systems and impair a child. The third relationship pattern is emotional distance, which may be considered a technique that will be employed by family members to lower the intensity of the relationship.

The triangle notion in this theory discusses the necessity to balance family systems by adding a third person to help resolve conflict or tension between two people (Bortz et al., 2019; Weeland et al., 2021). A stable relationship requires equalising triangle tension. If family members take responsibility and stay connected, these triangles will stabilise. The triangle notion is crucial to explaining family functioning in family systems that have a recovering father or husband. A good family functioning in this way will be able to divide the anxiety equally amongst the father, mother, and children. For example, the father will spend more time with his children to fulfil his responsibilities as a father. His parenting will improve. The triangle is stable if all family members can exhibit positive bonding behaviours such as clear communication patterns and emotional involvement with each other.

Both parents' involvement in the nuclear family will greatly benefit their children (Lee et al., 2020). However, emotional cutoffs between family members will cause unhealthy family functioning, such as the inability to discuss and communicate about family changes. Younger children who saw their father beat their mother during domestic violence may develop an emotional distance from him. The children may avoid their father, not speak to him, or move away to sever the emotional tie.

With its foundation in the Family Systems Theory, the FAD has proven invaluable in assessing various familial situations, be they tension-filled triangles, nuclear family emotional systems, or instances of emotional cutoffs. The FAD facilitates an intricate understanding of the shifting dynamics, assisting in the exploration of the impact on individual members and the family unit as a whole. Consequently, through its holistic and systematic approach, the FAD helps identify areas for improvement and provides insights for interventions, ultimately aiming to foster healthier and more resilient family systems.

Methodology

This conceptual paper employs an 8-week desk-based study methodology to assess the utilisation of the McMaster FAD. A desk-based study, or secondary data analysis, involves the systematic review and analysis of existing research data and findings. This methodology has been chosen for its cost-effectiveness, extensive coverage, and ability to generate insights through a comprehensive review of multiple studies. The desk-based study conducted for this paper involved three primary stages: data identification, data extraction, and data analysis.

Data Identification

The first and second authors were involved in the initial stage of conducting a systematic search of electronic databases, including PubMed, PsycINFO, Scopus, and Web of Science, to identify relevant studies published between 2017 and 2023. Both authors screened the journals based on their titles and abstracts, and only those published in English and in peer-reviewed journals were considered. The search strategy combined key terms related to the study, including "McMaster Family Assessment Device", "Family Dynamics", and "Family Systems Theory". The systematic search generated 7,338 articles. Articles were then filtered using these four keywords: family functioning, psychometrics, descriptive statistics, and questionnaires. The use of these four filters resulted in 23 articles.

Data Extraction

All 23 articles were thoroughly read by the first and second authors for relevance and the extraction of essential data. The following information was collated from each study: authors, year of publication, research design, sample characteristics, use of the McMaster FAD, main findings, and implications for understanding family dynamics during recovery from substance abuse. Any information on the strengths and limitations of the FAD in these contexts was also extracted.

Data Analysis

The final stage involved synthesising the extracted articles. Each study's use of the FAD was examined, and the results were analysed in the context of the overall research objectives. Grouping similar studies allowed for the identification of trends, common themes, and contrasting findings. The strengths and limitations of the FAD were also critically analysed.

Trustworthiness

To maintain the trustworthiness of the findings, this conceptual study implemented three steps. The first lies in its systematic procedure, which involves a rigorous process of data identification, data extraction, and data analysis. Through a meticulous selection of studies from reputable databases and subsequent comprehensive analysis of those studies, this research ensures the credibility and reliability of its findings.

Results***A brief overview of the McMaster Family Assessment Device (FAD)***

The McMaster Family Assessment Device (FAD) offers an effective tool to understand these dynamics, providing a quantitative measure of family functionality. This model draws upon the principles of Family Systems Theory, emphasising that families function as interconnected units, with each member's behaviour shaping and being shaped by the family system's transactional patterns. The FAD evaluates six specific dimensions of family functioning, namely problem solving, communication, roles, affective responsiveness, affective involvement, and behaviour control, along with an additional general functioning subscale.

The current version of the FAD assesses six distinct dimensions or subscales of family functioning: problem solving, communication, roles, affective responsiveness, affective involvement, and behaviour control. Furthermore, it includes an additional dimension or subscale, "general functioning, which evaluates the overall level of family functioning. Family members complete the questionnaire based on their current perception of their family dynamics, reflecting on how they have perceived their family. Family members aged 13 years and older can respond to this questionnaire, which typically takes fifteen to twenty minutes to complete.

According to Cao González and Rodríguez-Naranjo (2023), healthy family functioning can be identified through patterns of change and development, commitment and attachment between family members, the capacity to provide protection and nourishment, and the socialisation of its members. Using FAD, family members complete the questionnaire based on their current perception of their family dynamics, reflecting on "how they have perceived their family." Family members aged 13 years and older can respond to this questionnaire, which typically takes fifteen to twenty minutes to complete.

Development Phases and Types of Items in FAD

The development of the FAD occurred in three distinct phases. During the initial phase in the 1970s, the FAD comprised 240 items, with 40 items dedicated to each of the six subscales. In the subsequent phase, the questionnaire was reduced to 53 items, as those with the lowest scores were discarded. The current FAD contains 60 items, with two new items added to Problem Solving, three to Communication, and three to Roles. In total, there are seven subscales designed to measure various aspects of family functioning. The problem-solving subscale evaluates the family's ability to resolve issues; the communication subscale reflects the effectiveness of information exchange among family members; and the roles subscale determines if the family maintains consistent patterns in managing family functioning. The Affective Responsiveness subscale measures the family's ability to express emotions, while the Affective Involvement subscale considers the quality of interest, concern, and involvement shown among family members. The Behaviour Control subscale assesses the established standards and limits for behaviour. The seventh subscale, General Functioning,

rates the overall health and pathology of the family, with scores reflecting the cumulative results of the other six subscales.

Scoring Method

Each item presents a general statement about family functioning, and respondents must choose from four options on a 4-point Likert scale: strongly agree, agree, disagree, and strongly disagree, scored as 1 for "strongly agree" and 4 for "strongly disagree". The overall mean family score is calculated by summing and dividing the ratings of each family member on each subscale. Lower scores indicate healthier or better family functioning compared to higher scores. The application of a 4-point Likert scale to the 60 items in the FAD generates a range of scores from 60 to 240. The lowest score is interpreted as indicative of healthy family functioning, while the highest scores suggest severely pathological family functioning.

Psychometric Characteristics

The initial study of the psychometric properties of the Family Assessment Device (FAD) was conducted in 1983 (Timmerby et al., 2018). This study utilised an early 53-item version of the FAD. The sample for examining the psychometric characteristics consisted of 503 clinical and nonclinical individuals, 294 of whom belonged to a pool of 112 families. This investigation determined that the FAD exhibited Cronbach alpha values ranging from 0.72 to 0.90 across the subscales. Both the roles and behaviour control subscales had the lowest reliability at 0.72. Problem solving had a reliability of 0.74, communication scored 0.75, affective involvement 0.78, and affective responsiveness 0.83. The general functioning subscale had the highest Cronbach alpha value at 0.92.

In 1990, a revised study of the psychometric properties of the new 60-item FAD version was conducted to provide support for the continued use and development of this test (Mansfield et al., 2019). This research divided its samples into three distinct categories—nonclinical, psychiatric, and medical populations—to ensure the FAD's applicability in various settings. The coefficient alpha of the new 60-item FAD was found to be comparable to the previous 53-item version. The general functioning scale maintained the highest reliability, while the role scale retained the lowest. However, the reliability of the three subscales to which new questions were added—problem solving, communication, and roles—improved notably, especially for families with medically disabled members (Beierlein et al., 2017).

Critique of the FAD Structure

The FAD features 60 items designed to operationalize the concepts of healthy and unhealthy family functioning. Cong et al (2022) suggested that it typically takes 15 to 20 minutes for respondents, both children and adults, to complete the form. The relatively short completion time is a strength of the instrument, particularly for respondents with limited time, as it doesn't require a long, extensive commitment. This efficiency is crucial for patients in clinical settings or younger children, who may lose focus after a certain period. Consequently, this tool can be distributed to respondents in outpatient clinics who are typically allotted specific timeframes for their appointments, such as one-hour counselling sessions. Similarly, it is advantageous for respondents in school or military camp settings, where availability may be limited due to strict schedules.

However, the arrangement of the subscales presents a weakness in the FAD. The first subscale, Problem Solving, starts with items such as "We usually act on our decisions regarding problems", while the final subscale, General Functioning, poses questions like "We

confide with each other". A more logical progression might begin with questions regarding the general functioning of family relationships, providing respondents with a smoother transition into understanding the questionnaire's flow. The subscales could then progress from simpler to more complex concepts of family functioning, such as roles, communication, behaviour control, problem solving, affective involvement, and affective responsiveness.

According to Chin et al (2022), the general functioning subscale in the FAD is used as an indicator of family functioning. All 12 items in this subscale are related to the Problem Solving, Affective Responsiveness, Affective Involvement, Behaviour Control, and Roles items, helping to determine whether a family's functioning is healthy or unhealthy. However, if general functioning summarises overall family functioning, how can one differentiate between a family struggling with communication and role issues? A family may only have behaviour control issues related to setting limits for behaviour. This doesn't necessarily mean they struggle with affective responsiveness issues or have difficulty exhibiting appropriate emotions to others. Hence, future use of this instrument may lead to inaccurate research findings or inappropriate treatment plans for clients.

Critique of the sensitivity and accuracy of FAD culture

Since the 1970s, the FAD has been used to serve a multiethnic population. These include Caucasians and Hispanics in the United States (Timmerby et al., 2018). However, this does not mean that FAD has high reliability to measure family functioning in other races. The FAD instrument was developed using a Western theoretical family concept that focuses more on an individualistic approach where individuals will have freedom to express their opinions. In contrast, most families from other races, such as Hispanic and Asian, use collectivistic and stress-familism as guidelines for their families (Babar et al., 2021). As a result, the researcher who wants to measure the family functioning of Hispanic or Asian families will misinterpret the families as 'unhealthy.' This is because questions such as "People come right out and say things instead of hinting at them", "When we don't like what someone has done, we tell them," and "We are frank with each other" will generate high scores for those who choose to 'strongly disagree' with these questions.

Additionally, FAD was designed to measure family functioning in a nuclear family, where parents and children will have chances to express their perceptions towards other family members. However, there are families that do not fit the nuclear family definition. These include single-parent families and extended families that live with grandparents, uncles, or cousins. In this instrument, the Roles subscale might not be relevant, especially for families that have unclearly assigned roles when they live with their grandparents, cousins, uncles, and in-laws. As a result, the use of FAD might be less accurate to measure family functioning in families with a single parent or extended family. The overgeneralization of the items and insensitivity of this instrument when applied to a minority population is one of the limitations of using FAD with other families that have different cultures and different types of families.

Language

The use of sensitive and accurate language in the instrument is important to generate reliable and valid answers from respondents. In general, FAD uses a moderate level of language sensitivity, and some of the questions might be better if they were constructed differently. Instead of asking "Even though we mean well, we intrude too much into each other's lives", the question will be more sensitive if it is constructed as "We are unclear about privacy in our family." The use of this new sentence is more sensitive and accurate because too much

involvement does not mean 'to intrude', especially for families that have a high level of involvement with each other's lives to protect their family members. The other insensitive item in FAD comes from the Behaviour Control subscale, which asks, "We have no clear expectations about toilet habits." This question is insensitive because "toilet habits' are considered taboo and irrelevant to disclose. Toilet habits also differ from one country to another. Rather, the 'toilet habits' word will be more sensitive and accurate if it is replaced by the "sanitation' or 'hygiene' word. The new question will be, "We have no clear expectations about sanitation." The use of less sensitive language is another disadvantage for FAD. This is because language will influence the respondents' ability to feel comfortable reading and answering the questions.

Critique of the procedure to administer FAD

The FAD instrumentation is a paper and pencil instrument that was developed to identify problem areas in the most simple and efficient fashion possible (Babar et al., 2021). A face-to-face interview by a trained researcher is the main method to collect data. This gives advantages in collecting data because the presence of a trained researcher will assist respondents in understanding complex questions or reading the questions if they have difficulties reading. In this instrument, the question "Anything goes in our family" for the Behaviour Control subscale might be unclear to younger kids, and the use of a face-to-face interview when administering this instrument will allow them to ask for clarification about the sentence. This instrument is easy to administer because it uses general or short sentences, and there is no time limit to complete the instrument. On the other hand, face-to-face interviews might limit the ability to receive genuine answers from respondents, particularly when they need to answer taboo or sensitive questions. Respondents might have difficulties answering questions such as "We can cry openly" or "We are too self-centred" in front of a stranger or trained researcher. Additionally, the administration of FAD will be more costly due to the need to train the researchers to administer the test.

Critique of the appropriateness and applicability of FAD for diverse population groups

The FAD was developed based on the McMaster model of family. According to Amente and Tefera (2021), this model provides a comprehensive assessment of family functioning. The ability to use an established model that has been used in family intervention gives advantages to this instrument. This means the FAD instrument can be used in many types of families, whether the families have clinical or non-clinical conditions. The use of this instrument might be applicable to measure aspects of family functioning in a family with a father with suicidal ideation. This is because poor or unhealthy family functioning might become a factor in developing such a condition. The FAD instrument will also be applicable to families that do not have any clinical conditions. Using this instrument, researchers can examine family cohesion and social support as perceived by families with pregnant adolescents. If the family has difficulties with communication and affective responsiveness, the use of this instrument will enable social workers to suggest an appropriate treatment plan for this family.

The FAD uses simple and straight-to-the-point subscales to operationalize the concept of family functioning, such as roles, communication, behaviour control, and problem solving. These concepts will not require a high level of thinking to understand their definition. This means a diverse population might be able to understand this instrument, including people who have limited knowledge of the English language. Additionally, people who have traumatic histories will be able to use this instrument because it does not require any

flashbacks that might trigger the traumatic incidents. In contrast, only adults or children aged 12 and up may use this instrument. This limits the application of this instrument to families that have small children (age 11 and below). These children might have important insight or information about their family. However, the exclusion of their opinion will affect the accuracy of the examination of the overall family functioning and relationship. As previously discussed, the types of questions that are insensitive to other races limit the applicability of this instrument, including to Hispanic American families (Van Fossen et al., 2022). The use of FAD is also limited to only nuclear families.

The FAD is known as one of the instruments used to measure family functioning by focusing on multidimensional stances and subscales. There are many studies that have been used and translated into 14 languages. The Greek version of FAD shows good temporal stability and good discriminant validity across groups (Almeida et al., 2020; Tsamparli et al., 2018). The wide use of this instrument gives it advantages in improving its reliability and validity. However, there are still many disadvantages and limitations to using FAD. These include the use of less sensitive and inaccurate items in measuring minority populations. Additionally, the unclear and repetitive questions reduce the ability of respondents to provide authentic answers.

Limitations

This conceptual paper is not devoid of limitations. This review relies on existing research data, meaning that the reliability and validity of those original studies directly impact this study's findings. Possible biases and the quality of the original data could limit the accuracy and completeness of this paper's results. Furthermore, the desk-based study's time-bound scope may exclude relevant studies published outside the selected time frame. Nonetheless, despite these limitations, this methodology provides an effective, cost-efficient approach to generating insights on the topic at hand. Ultimately, the integrity of the desk-based study hinges on the researchers' diligent application of the process, critical interpretation of the findings, and acknowledgment of its inherent limitations.

Conclusion

In conclusion, there are advantages and disadvantages to using FAD as an instrument for family research. Despite certain limitations, the FAD remains an indispensable instrument for capturing nuanced family interactions, communication patterns, and other systemic elements that are crucial for comprehensive family assessment. It facilitates understanding the unique challenges these families face and the strategies they employ to enhance resilience and facilitate recovery. Future research endeavours should focus on refining and adapting the FAD to better cater to the needs of diverse family configurations. Such efforts will ultimately contribute to enhancing therapeutic interventions and promoting healthier, more adaptive family functioning.

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