Predicting the mental health profile based on the developmental family function components

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Abstract

Introduction: This paper aims at determining the relation and the prediction power of mental health subscales based on the developmental family function levels according to the modern procedure of human integrated developments among the married students studying at Ferdowsi University of Mashhad.

Materials and Methods: The statistical community of this descriptive–correlative study includes all the married students in Ferdowsi University of Mashhad, studying in the academic years 2014-2015, among whom 220 students were selected using the convenience sampling. The tools used for collecting the data are Developmental Family Function Assessment Questionnaire (DFFAQ) and the symptomatic mental health checklist (SCL-25). The data was analyzed by the statistical indicators, i.e. the Pearson correlation coefficient and stepwise regression.

Results: There is a negative significant relation between the developmental family function and the subscales of somatization, obsessive-compulsive, interpersonal sensitivity, anxiety, and depression (P<0.01). They also show that the logical thinking and creating representations and ideas are the best predictors of the mental health.

Conclusion: Generally, the results of this paper confirm the intermediary role of developmental family function in psychopathology. It can be said that one may predict the mental health problems through studying the people’s understanding of the developmental family function; it contributes to improve the researchers’ knowledge in explaining and treating the trauma.

Keywords: Developmental, Family, Function, Mental health

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Introduction

The mental health that is an important dimension and center of the general health plays an important role in assuring the societies’ dynamism and efficiency; it includes mental comfort, empowerment, autonomy, efficiency, understanding the correlation between generations, and recognizing one’s abilities in fulfilling own logical and emotional capabilities. The mental health, according to the definitions provided by WHO (World Health Organization), is a state of welfare in which one can find his abilities, and is able to cope with common stresses in life, and achieve the goals. Growing the population and developing the urbanization and industrialization, the mental illnesses are among the most important causes of disabilities and early death, and high prevalence of such illnesses and long-term and chronic disabilities made these problems as a health priority in all societies (1).

In fact, a trauma is not an inner problem for one of the family members, but it is a transactional process among the members. The literature shows that there is a significant relation between family poor performances and the risks for physical disabilities, anxiety, sleep disorders, depression, and disorders in social functions in children (2). The family performance deals with its ability in coordination with changes, resolving the conflicts, cooperation among the members, and fulfilling in enforcing the disciplinary models, doing the requirements and principles of this institution to protect the entire family system. Any qualitative or quantitative change in this process can lead to different characters, and in some cases, mental problems.

One of important models in studying the family function is McMaster’s. Based on a system approach, this model assesses six dimensions of the
family life, including problem solving, relations, roles, emotional responses, emotional support, and behavior control (3). There can be found many researches confirming the mental problems in families by this model; some can be mentioned here: the relation between family function and accountability, self-concept, religious affiliation, and hope for future (4), the relation between family function and children’s recalcitrance (5), self-regulation (6), tolerance against using drugs (7), mental needs (8), anxiety and depression (9).

This paper studies the family function based on the Developmental Individual differences Relationship-based model (DIR). This model proposed by Greenspan and Wieder is a developmental and pervasive model based on integration between cognitive, emotional, and lingual abilities. In DIR, all the biological and mental factors act together and influence each other. Greenspan believes that one’s unique biological features affect, on one hand, one’s social characteristics he was born in, such as family, culture, etc., and on the other hand, one’s interactions, and determines people’s developmental level (10).

Greenspan and Wieder drew the normal emotional-functional developments from birth to adulthood after 8 years observing the early emotional signs, cognitive and motional processing differences, the relation between care-taker and child, and the interactional patterns in families (for both children with healthy developments and children with trauma). They designed a comprehensive treatment program for treating the children deviating for the normal path, called as DIR that emphasizes on three components: development, relations, and personal differences in the child’s development. Development (D) shows the stage of development in child. This model views the children’s mental health in six developmental levels: attention and adjustment, being dealt with human relationship, signaling, voluntary emotional interactions, emotional signaling circles, and common social problem solving, creating and applying ideas and bridging two or more ideas. Children should pass these levels one after the other in order to achieve the mental health. Each of these levels is made on the previous one (11), individual differences (I) refers to individual differences in sensory adjustment, sensory processing, and motional lining; each child passes the developmental stages through his own regulative-sensory profile in a different way (12). The relation (R) determines the child’s emotional relation with the take-taker, the quality of emotional and social interactions with other influenced by child’s unique biological features, and his mental developments (13).

Fulli and Hatchman believe that the most prominent view in forming DIR is the impact of the relations providing multiple interactions for the child (14). This model emphasizes on the roles of emotional interactions in human’s mental developments. It does not know all the basic abilities in human beings as predetermined genetic features appearing in the development process, but as acquired capabilities made and developed in child’s emotional relations with others. The factor makes the child-parents relations as a determinative factor in the mental development is the emotions appearing in the interpersonal relations (15). In this model, the “team of the mind”, including sense, motion, care, and memory, is integrated by the emotions. Providing the objectives for different parts, the emotions can coordinate organism and make sense to one’s experiences. Also, the emotions can form the mental representations, ideas, and lingual symbols used in the process of thinking and logical reasoning (16-18).

The child-caretaker interactional patterns move the child’s unique biology into a greater developmental process, deal more with improving the developmental capabilities, expand the child’s relations and emotions as well as his experiences, and help him in moving from one stage to the other (19). On the other hand, the interactions that ignore the adjustments with the child’s developmental level or the personal differences weaken the child’s developments. For example, a caretaker who is depressed cannot attract a child with depression or little-reaction (14).

In family, this model focuses on a way by which the family can support or weaken the developmental functions as a whole, and becomes a desirable environment to treat and train children. In this context, family, in this model, is considered from birth and early childhood as well as developmental approach (20). According to this theory, the family members can pass the healthy developmental process only when these capabilities exist in the family as a whole.

Similarly, Aali et al. (2013) designed the family developmental stages based on functional-emotional developmental stages in this model as follows in detail:

Stage 1: Care and regulation. In this stage, a healthy family is a peaceful and regulated family whose members consider each other’s tolerance against environmental stimuli, in a way that they can adjust the environment according to the member
who is sensitive to the sensory stimuli; they will make the environment more active and dynamic for the member who needs to be more active; all the members should be calm and organized emotionally. In challenging situations, the family has a regulative role for the members, and tries to make the anxious and disorganized member calm rather than emotional bombarding or indifference. More such features can be found in a family, it is more known as a family with high developmental functional levels.

Stage 2: The members who are emotionally calm and organized love each other. Such members cooperate in emotional experiences; in this context, one’s emotional and mental experiences are important for the other members.

Stage 3: Mutual relations. In the third stage, such family is able to have deep mutual relations among the members. In this stage, all the members interact purposefully and according to their abilities. They are able to express their emotions, feelings, intents, and thoughts.

Stage 4: Social problem solving. The members who have such developmental capability are sensitive to each other’s needs and have a sense of responsibility. The family has a problem-based approach in challenges and conflicts. Trying to solve the problem, the members consider the personal problems as challenges for all. Particularly, if one of the members is disabled, the others cooperate in order to solve the problems related to this matter.

Stage 5: Creating representations or ideas. In this stage, there is a family in which anyone expresses his own ideas and discusses about them. The members try to adjust their emotional experiences with others rather than controlling each other’s emotions. The members discuss about a variety of emotions such as love, intimacy, aggression, curiosity, and jealousy. They tolerate the different idea and while enriching each other’s emotions, they share and discuss about these ideas. Therefore, the family discussing about some of the emotions, and refrain or control the other emotions, or a family with no sense of expressing ideas have problems in this developmental capability.

Stage 6: Logical thinking. Fulfilling the developmental level of creating representations helps the family to achieve the logical thinking level. In this level, the family reacts realistically and logically in facing the problems. When the members are in a team, they are realistic thinkers who act more logically in solving the problems. The logical approach can be seen in all emotions and feelings, and is not specific to a special subject or emotion.

Stage 7: Discipline. The last level in the family development is having a disciplined family. In this level, the inner rules are specified by discussing and interacting all the members, and proportional with their capabilities. In such family, the rules are clear for all members and must be observed (21).

Materials and Methods

This paper is actually practical, and is correlational-descriptive in collecting data. The population consists of all married students in Ferdowsi University in the academic years 2014-2015. The sample was 240 married students selected by convenience sampling. Collecting the questionnaires, the data collected from 220 students was analyzed as 20 students did not answer the questions fully.

Research instruments

The tools used in this paper were Developmental Family Function Assessment Questionnaire (DFFAQ) and Symptom Checklist-25 (SCL-25).

- Developmental Family Function Assessment Questionnaire (DFFAQ): The Aali’s developmental family function assessment questionnaire (2013) was used in paper to assess the family function development. This questionnaire consists of 43 items; its subscales are: care and regulation, being attracted in human relations, mutual relations, common social problem solving, creating representatives and ideas, logical thinking, and discipline. Any question is graded in a 4-point scale (0=never, and 3=always). The questions 12, 13, 18, 19, 20, 23, 24, 30, 31, 37, 38, 39 have reverse points. Low point in any subscale shows poor family function in that area. Validity of this questionnaire is -0.75 using Mc Master’s family function assessment model, its re-test coefficient is 0.93 and Cronbach Alpha is 0.92 (21).

- Symptom Checklist (SCL-25): This questionnaire is the shortened form of the test (SCL-90) that is designed by Najarian and Davoodi as a single-factor tool to assess the general psychopathology. It consists of subscales somatization (SOM), obsessive-compulsive (O-C), interpersonal sensitivity (INT), depression (DEP), anxiety (ANX), phobic (PHOB), paranoid thinking (PAR), and psychoticism (PSY). Studying the validity of this test, its correlation with the general anxiety test is reported as 0.69, and with Beck depression questionnaire as 0.49, with Ahwaz perfectionism as 0.66, and with the recalcitrance scale as 0.56. Also
its reliability using the re-test method is 0.78 and by using the internal calculation is 0.97 (22).

**Results**

This part provides the descriptive indicators and the results of regression analysis to predict the subscales of mental health based on the developmental family function variable as a predictor indicator.

**Table 1.** The mean and standard deviation of the developmental family function components

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Max</th>
<th>Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care and regulation</td>
<td>14.08</td>
<td>2.98</td>
<td>19</td>
<td>2</td>
</tr>
<tr>
<td>Being attracted</td>
<td>13.82</td>
<td>3.20</td>
<td>19</td>
<td>1</td>
</tr>
<tr>
<td>Mutual relations</td>
<td>14.54</td>
<td>3.60</td>
<td>21</td>
<td>4</td>
</tr>
<tr>
<td>Problem solving</td>
<td>16.06</td>
<td>3.08</td>
<td>21</td>
<td>4</td>
</tr>
<tr>
<td>Creating representation</td>
<td>12.46</td>
<td>2.80</td>
<td>18</td>
<td>4</td>
</tr>
<tr>
<td>Logical thinking</td>
<td>10.36</td>
<td>2.74</td>
<td>19</td>
<td>0</td>
</tr>
<tr>
<td>Discipline</td>
<td>11.16</td>
<td>2.47</td>
<td>18</td>
<td>0</td>
</tr>
<tr>
<td>Family function</td>
<td>26.19</td>
<td>12.63</td>
<td>63</td>
<td>2</td>
</tr>
</tbody>
</table>

The results of this table show that the sample understood their family function in problem solving, care and regulation, and mutual relation more than the other levels.

**Table 2.** The mean and standard deviation of the mental health subscales

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Max</th>
<th>Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Somatization</td>
<td>7.57</td>
<td>4.36</td>
<td>23</td>
<td>0</td>
</tr>
<tr>
<td>Obsessive-compulsive</td>
<td>4.34</td>
<td>2.57</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>Interpersonal sensitivity</td>
<td>3.37</td>
<td>2.53</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Depression</td>
<td>0.30</td>
<td>0.81</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Anxiety</td>
<td>3.56</td>
<td>2.46</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Phobic</td>
<td>2.74</td>
<td>2.18</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>Paranoid thinking</td>
<td>1.34</td>
<td>1.07</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Psychoticism</td>
<td>2.16</td>
<td>1.76</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>Mental health</td>
<td>92.75</td>
<td>16.34</td>
<td>128</td>
<td>27</td>
</tr>
</tbody>
</table>

As this Table shows, the mental health profile of the sample is in a worse condition in the subscales somatization, obsessive-compulsive, and anxiety than the others.

**Table 3.** The correlation between developmental family function components and the mental health subscales

As Table 3 shows, there is a significant negative correlation between the developmental family function and total score in the mental health scale (-0.48). Also, the component of care and regulation has the most correlation with the subscales of interpersonal sensitivity, somatization and obsessive-compulsive; there is a significant negative relation between being attracted and anxiety; logical thinking and care and regulation, being attracted, anxiety, as well as interpersonal sensitivity, and discipline and interpersonal sensitivity, anxiety, and care and regulation ($P<0.01$). In other words, more the family has better function at the mentioned components, the mental problems signs will be less, and the family is of higher mental health.

Also, we used the stepwise regression analysis in order to determine the share of any of these dimensions. In this analysis, the developmental family function dimensions are considered as predictors and the mental health subscales as the basic variables. In the following, there would provide the Tables representing the regression analyses.

**Table 4.** The stepwise regression on the shares of developmental family function components on predicting of mental health

As Table 4 shows, there is a significant negative correlation between the developmental family function and total score in the mental health scale (-0.48). Also, the component of care and regulation has the most correlation with the subscales of interpersonal sensitivity, somatization and obsessive-compulsive; there is a significant negative relation between being attracted and anxiety; logical thinking and care and regulation, being attracted, anxiety, as well as interpersonal sensitivity, and discipline and interpersonal sensitivity, anxiety, and care and regulation ($P<0.01$). In other words, more the family has better function at the mentioned components, the mental problems signs will be less, and the family is of higher mental health.
As shown in this Table, in analyzing the stepwise regression, the logical thinking and being attracted are inserted into the regression while passing the final stage for the variable of somatization. Logical thinking and Beta standard coefficient, and logical thinking had a significant predicting ability for somatization as -0.260, and -0.223 respectively. Logical thinking and being attracted had a significant predicting ability for the variable of obsessive-compulsive with Beta coefficients as -0.197, and -0.167, respectively. Moreover, logical thinking and care and regulation predicted the interpersonal sensitivity with Beta coefficients as -0.267 and -0.222, respectively.

According to this table, the developmental level of problem solving can have a significant prediction of depression, and other levels are not good predictors for this subscale and are deviated from the model. For the subscale of anxiety, it can be said that being attracted and logical thinking levels are good predictors with Beta coefficients as -0.245 and -0.202, respectively. On phobic levels, logical thinking, creating representation, being attracted, and care and regulation entered into the regression with Beta coefficients as -0.248, 0.222, -0.302, and -0.193, respectively, and predicted the mentioned subscales.

According to this table, the scale of logical thinking predicted the paranoid thinking and psychoticism significantly ($P<0.01$), while the other subscales did not predict the mental health and deviated from the model.

The results of this table on predicting the mental health as a general variable show that the developmental family function, with Beta coefficient -0.480, predicts significantly the mental health. In addition, creating representations and logical thinking, with Beta coefficients as -0.245 and 0.220, respectively, predicted significantly the mental health.

**Discussion**

The results of this paper confirm the potentiality of developmental family function to predict the mental health. According to the results, there is significant relation between the developmental family function and subscales of somatization, obsessive-compulsive, interpersonal sensitivity, depression, and anxiety. These results conform to most researches done in this subject (23-28). Also, Ghamari, in his research on the relation between subscales somatization (SOM), obsessive-compulsive (O-C), interpersonal sensitivity (INT), depression (DEP), anxiety (ANX), phobic (PHOB), paranoid thinking (PAR), and psychoticism (PSY)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SD</th>
<th>Beta</th>
<th>t</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed value</td>
<td>60.011</td>
<td>4.210</td>
<td></td>
<td>14.255</td>
<td>0.000</td>
</tr>
<tr>
<td>Family function</td>
<td>-0.371</td>
<td>0.086</td>
<td>-0.480</td>
<td>-4.292</td>
<td>0.000</td>
</tr>
<tr>
<td>Creating</td>
<td>-1.130</td>
<td>0.377</td>
<td>-0.245</td>
<td>-2.997</td>
<td>0.003</td>
</tr>
<tr>
<td>representations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logical thinking</td>
<td>0.990</td>
<td>0.423</td>
<td>0.220</td>
<td>-2.339</td>
<td>0.020</td>
</tr>
</tbody>
</table>

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family function based on Mc Master’s model and mental health, showed that there is a significant relation between somatization and depression and family function (29). In this paper, all levels of the family function have a significant relation with somatization, obsessive-compulsive, and interpersonal sensitivity as well as its total score. Given this fact that logical thinking is assessed as a good predictor for the mental health, it can be said that in human developmental integrated model, a healthy family is one acts logically and realistically in facing with problems and challenges, the members are realist and react more logically. In contrast, an unhealthy and inefficient family acts emotionally. When the family encounter with problems emotionally, and there is no way to express emotions and anxieties, these problems can appear in a physical form. According to the researchers opinion somatization is the mostly accepted way in some societies; in this context, it can be confused, especially for the young, to consider the emotional and physical problems. Therefore, it is better to consider their physical problems more carefully and there should be efforts to find the reasons (25).

There is a relation between depression and family function, particularly in the subscale of problem solving. The reason can be what mentioned earlier, and better and healthier efficiency of the family can be effective on reducing depression. Depression is one of emotional disorders affecting all aspects of one’s life. This disorder may deprive the young of their vitality and has a negative effect on their educational and social progress. In this context, Hetrick et al. know the family function as a predictor for the suicide among the young. In DIR model, depression has a strong relation with the fourth stage of family development; the family in which no one cares about the other members, one is more vulnerable against depression (30).

Furthermore, there could be found a significant relation between anxiety and family function. According to the results of regression analysis in DIR model, anxiety can be predicted through the second level of family development or being attracted to human relations; in other words, in a family whose members do not love one another and do not share their emotional experiences, the members are vulnerable against anxiety disorders. The research by Rapee confirms these findings; he knows poor emotional relations among the members of a family as a determinative factor to specify people’s vulnerability against anxiety (32). Volfrat et al. proposed the authoritative parenting in which children experience less intimacy with their parents a predictor of children’s anxiety (33). Therefore, it can be said that there is a relation between poor attraction or lack of intimate relations among the family members and anxiety. Poor emotional attraction can, on one hand, increases the patient’s phobia and, on the other hand, make him cold toward others. Therefore, there is a mutual relation between anxiety and the ability of being attracted to others, in a way that one causes the other. Also, the family function is affected by one member’s illness; once in a family, one of the members is prescribed as anxious, the other members do not know how to deal with this problem and hence, the family function can be affected (28).

Generally, the results of this paper focus more on the intermediary role of developmental family function on psychopathology. It can be said that it is possible to predict people’s mental problems through studying their understanding of developmental family function. Among all the levels of family functions, the fifth and sixth levels, i.e. creating representations and ideas and logical thinking, were better predictors. The researcher in this paper tried to study the developmental needs on any mentioned disorders, which were studied in the basis of levels of developmental family function. The results of this paper can be a basis for deep studying of any specific developmental need. They can be an important step in explaining the disorders, and can contribute to designing treating approaches with referring to family as a whole t improve the mental health.

Among the study limitations are the paucity of the literature on the DIR approach and poor cooperation of the participants.

Conclusion
Generally, the results of this paper confirm the intermediary role of developmental family function in psychopathology. It can be said that one may predict mental health problems through studying people’s understanding of the developmental family function. It contributes to researchers’ knowledge in understanding and treating mental problems.

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