RISK MANAGEMENT IN FAMILY COHESION

Shuttawwee Sitsira-at
Srinakharinwirot university, Thailand
shuttawwee@gmail.com

Abstract

This article presents the development of a questionnaire for used to checking risk management in family cohesion. This questionnaire can be used to measure the family cohesion among students so that parents, teachers and school executives can gain insights into the phenomenon of family cohesion among youth. The information can be used as a guideline for promoting family institution and setting the activities that are conducive to the development of youth that will be a major force in the nation. The questionnaire was used in the research on family cohesion in the students of the Academies Preparatory School. This tool is based on Circumplex Model of Marital and Family System proposed by Olson (2011). Olson proposed 9 indicators: 1) Emotional Bonding 2) Boundaries 3) Coalitions 4) Time 5) Space 6) Friends 7) Decision making 8) Interests and 9) Recreation. Each indicator contains 5 items with the total of 45 items. Correlation analysis is conducted to verify whether the variables are sufficiently correlated. The results show that the correlation of most observable variables is significant at .05 and .01. A number of correlations are not statistically significant. For those that are significant, the correlation is low (r <.40) to moderate (.40< r < .60). Elementary verification of variables shows that the correlation matrix between variables verified by Bartlett's Test of Sphericity equals 23137.800, df 903, and is statistically significant at .000 (p<.001). This shows that the variables are correlated. Moreover, Kaiser-Meyer-Olkin measure, which shows the suitability of a sample, equals 0.939, a value near 0.80 meaning the appropriateness is good. Kim and Mueller (1978) suggest that when the value of sampling is greater than .80, it is considered very good. The measurements in this research can be used to checking risk management in family cohesion to prepare families to become stronger.

Keywords: Family Cohesion, Development of Questionnaire

1. INTRODUCTION

Family is the closest, meaningful and important social institution for every person from the beginning of their life. Family members are directly responsible for teaching and building specific characteristics of an individual. Family is a fundamental social institution in determining personality patterns, ideas, beliefs, attitudes, and behaviors. Both positive and negative behaviors of family members are the foundations that play an important role in shaping success or failure of a person. When family members show affection, warmth and care and give counsel, advice, and intimacy, mutual bond is formed and the individual feels loved and desired. Receiving love and care from parents or caregivers will allow children to have appropriate development in all aspects. When faced with problems, they are able to overcome them with the help of their family (Lumchiak Kamthorn. 2005: 15; Resnick et al., 1997: 823-832). Shalhevet et al. 2009: 67-75) explain that family is important to allow an individual to develop in a normal way according to age especially those who are in their teens where a lot of changes happen. If they have a strong family foundation, they will be able to learn and adapt well throughout their lives. But if the family relationship is not good or is problematic, they will feel a lack of love which will be a barrier to learning and to adjusting oneself. They may not be able to solve the problem or overcome the obstacles on their own during the difficult times of life.

A psychological concept that describes the effect of family bond on an individual's behaviors is Olson's Circumplex Model of Marital and Family System, proposed in 1979, to describe the processes that lead to healthy families. This concept is based on System Theory. He explains that an individual's ability to live a normal life requires a loving bond from the family. The bond is related to the role of family members. They must perform their role effectively and have positive communication. Family members have close ties and ways to maintain that relationship. They spend quality time together. Family bonding is a common concern among family members, valuing one another and supporting one another so that the family atmosphere is warm and loving. Olson continually develops this concept to bridge the gap between research, theory and practice.

Olson, & Gorall (2003: 556-558) propose that Circumplex Model consists of 3 dimensions: (1) family cohesion (2) flexibility and (3) communication. In this research, we develop a questionnaire to assess family cohesion based on Circumplex Model. Olson and Gorall divide family cohesion into 5 levels: 3 balanced and 2 unbalanced. The balanced levels of family cohesion are: 1) somewhat connected 2) connected and 3) over connected. The unbalanced family cohesions are 1) disconnected, where family members do not bond with one another and 2) overly connected, where family members lack independence and privacy. The family cohesion were at a high important in family relationship and adjustment of youths. Especially, Adolescents have to empathy for each other's feelings, interest in what each other has to say, and expectation of being understood (Hampson and Beavers, 1993). Family cohesion to include the degree of commitment, help, and support family members provide for adolescents (Moos and Moos, 1981, 1994). This questionnaire can be used to measure the family cohesion among students so that parents, teachers and school executives can gain

insights into the phenomenon of family cohesion among youth. The information can be used as a guideline for promoting family institution and setting the curriculum and curriculum development activities that are conducive to the development of personnel that will be a major force in the nation.

2. RESEARCH OBJECTIVES

1. To develop a questionnaire as a tool to measure family cohesion
2. To validate and examine the consistency of the family cohesion model

3. RELEVANT THEORIES AND RESEARCH

3.1 Basic concepts of family cohesion

Bowlby (1969: 179) proposes the term family cohesion to explain the bond between human. This bond is a permanent feeling beginning from when an individual is in his mother's womb and continuing to his infancy when he is dependent on others to give physical and mental protection. Bowlby proposes that the caretaker of a newborn infant influences the development of that infant from the first year of life and is the foundation of bonding later in life. Parents or caregivers play a role as protectors to keep the infant safe. The interplay of behaviors creates a bond between each other. This bond will continue to develop with age and persist forever. In their first year of life, infants show behaviors that indicate attachment need, such as crying when they need to be held. These behaviors are targeted to specific caregivers. Parents, mother or father are often the first ones the infant develops a strong bond with. But the bond will be reduced if it is disturbed. The quality of bond is related to an individual's self-concept, expectations and attitudes towards relationships with others. People who have a good bond with their family since childhood will be emotionally stable, have self-worth, can have good relationships with others and can maintain a stable relationship. People who experience bad bonding will feel they are not loved and are often rejected. They will consider themselves worthless and may show behaviors that destroy relationships with others. They feel rejected by others (Raweewan Krajangthong. 2539: 16).

Many researchers have defined family cohesion. Olson and Gorall (2003: 516) explain that family cohesion refers to relationships between family members who receive care, acceptance and mutual support leading to close relationships between family members. Ukritwiriya (2000: 9) states that family cohesion refers to a family member's commitment to another person including self-governing experience in the family system or the degree of close ties between family members, both physically and mentally. Jongliphan (2014: 5) defines family cohesion as emotional relationship, intimacy and satisfaction among parents and children including expression of love, care and appreciation towards each other.

From the above definitions, we conclude that family cohesion means intimacy and care among family members, emotional bond with each other, paying attention to, valuing and supporting one another.

3.2 Components of family cohesion

The fact that a person can live happily requires bonding that is rooted in the institution of the family. The Circumplex Model of Marital and Family System is a psychological concept that describes family members' engagement that affects an individual's behavior. Olson, et al. (1979) developed Circumplex Theory in 1979 to explain the processes that lead to healthy families. Olson continually develops the ideas to bridge the gap between theory and research that leads to practice. This concept is based on a conceptual framework developed from System Theory, which describes the role of a family. The family members perform their role effectively, have positive communication among themselves, form close relationships with one another, find ways to maintain relationships, spend quality time together, have family bonds, care for and value one another and support each other. The family has a warm atmosphere.

Olson proposes that Circumplex Model is composed of three dimensions: (1) family cohesion (2) flexibility and (3) communication (Olson, & Gorall, 2003: 556-558). This research focuses on family cohesion, which has 9 components according to Olson (2011: 64-80). The components are:

1. Emotional bonding refers to the behavior of family members to express love, care, support, encouragement and praise. Family members support each other during difficult times and rejoice when the members succeed.

2. Boundaries refer to the appropriateness and clarity of relationship and role between husband and wife and parents and children. Parents have the freedom, privacy and control they deserve.

3. Coalitions refer to the unity of the whole family in accomplishing various missions together. Family members have harmony and union without feeling divided.

4. Time refers to allocating time to do daily activities together such as eating, watching television or talking to each other.

5. Space refers to distance between family members, having space and privacy, respect for the rights of each family member and having their private space.

6. Friends refer to freedom to choose friends, introducing friends to family members and accepting each other's friends.

7. Decision-making refers to involvement in solving family problems, sharing ideas and making decisions on important family issues.

8. Interests refer to doing things together, sharing the same hobbies and showing interest in the activities of family members.

9. Recreation refers to participation in leisure activities, going on vacation, doing sports or outdoor activities together with the family when having free time or on special occasion.

3.3 Levels of family cohesion

Olson & Gorall (2003: 556-558) describe the degree of family cohesion among family members both physically and mentally in an encouraging and discouraging situation. Family cohesion is divided into 5 levels: (1) disconnected (2) somewhat connected (3) connected (4) over connected and (5) overly connected. They propose that the balanced levels 2 - 4, i.e. somewhat connected, connected and over connected, will make the role of a family goes on smoothly while too high or too low levels, i.e. disconnected and overly connected will cause inter-relationship problems. The balance in family cohesion is achieved by maintaining appropriate relationships and distance between family members. This is due to the fact that an individual can still be free and be themselves while still having a relationship with the family members. Families with problems are usually those who demonstrate too high or too low levels of family cohesion (level 1 and 5: disconnected and overly connected). When the family is too involved in an individual's life, it will make the individual feel less independent. On the other hand, when the family has no or very low involvement, each member does their own things and is not bonding with other members so they have a low family bond.

The three balanced levels of family cohesion: somewhat connected, connected and over connected, will allow the family members to function well and appropriately throughout the family life cycle. The levels of family cohesion can be described as follows.

1. Somewhat connected: family members have some emotional connection with other members. They have privacy but are not too free. Although private time is valued, they still spend some time with their family and make some decisions together. Each member may have their own activities and interests but they do some activities together.

2. Connected: family members have a balance between privacy and family time which shows independence of the family members.

3. Very Connected: family members are very close to one another and have emotional bonds with one another. They give importance to time spent together rather than time spent alone. They will not go separate ways to do their own things with their own friends because their friends are their family's friends too. Most activities are done together and doing things separately is rare.

Unbalanced levels of family cohesion are disconnected and overly connected as shown below.

1. Disconnected: family members have extreme emotional freedom. They spend little time together and rarely participate in any family activities. They do not have unity. Family members are not related and do their separate things. They have high level of privacy and private space. They do not support or help in solving each other's problems.

2. Overly connected: family members have a very high level of emotional bonds. They highly depend on one another, lack freedom and privacy or have low private space. Members are interested in spending time with family, have few friends and have little interest in other things other than the family.

Family is a basic social unit that greatly affects an individual. From the literature review, we can see that an appropriate level of family cohesion will lead to a balanced life. Family cohesion is fundamental to the individual's lifelong learning and personal development.

3.4 Measurement of family cohesion

In developing a tool to measure family cohesion, we studied Olson's Circumplex Model of Marital and Family System (Olson, et al., 1979) which explains the effect of family bonds on the behaviors of the family members. Olson developed Circumplex Theory to explain processes happening in the family. He developed both the theory and the tool called Family Adaptability and Cohesion Evaluation scales (FACES). The latest version is FACES IV, which contains 5-point rating scales: never, rarely, sometimes, often and always (Olson, 2011: 64-80; Olson & Dean, 2006 : *514-547*). Certain Thai researchers have applied this Circumplex Theory in developing a tool to measure the role of family members, for example Boonyapa Chaengsee (2001: 115-116). Chaengsee compared the effects of parenting styles on close ties, self-esteem and self-acceptance among university students. She developed a tool to measure family ties with 5-point rating scales: always, almost always, often, almost never and never. The confidence coefficient is at 0.917. Another work is done by Chuensumol Ukritwiriya (2000:51) who built a tool to measure family relationships to examine the influence of family relationships on being open to pornography among youth aged 15 - 26 living in Bangkok. This research is based on Olson's concepts and used Likert scale that contains 4-point rating scales: always, mostly, sometimes and never. The confidence coefficient is at 0.923. Another work is by Chayanee Jongleephan (2014) who developed a tool to measure the relatedness between self-adjustment and family ties among teenagers. The confidence coefficient of the tool is at 0.923.

From literature review above, we can define family cohesion and divide its components into 9 aspects which are emotional bonding, boundaries, coalitions, time, space, friends, decision-making, interests and recreation. The tool to measure family cohesion developed here is based on the Circumplex Model of Marital and Family System (Olson, 2011).

3.5 Research hypothesis

The basic model of family cohesion is compatible with the empirical data.

4. RESEARCH METHODOLOGY

4.1 Samples and sampling method

Samples were 1,151 students in Grade 10-12 of Academies Preparatory School who was adolescents. When considering each aspect, it was found that emotional bounding, boundaries, coalitions, time, space, friends, decision making, and interests were at a rather high level, while recreation was at a moderate level.

The 2 stages stratified random sampling was used. The first stage is the year in which they were enrolled and the second stage is the field in which they were enrolled. The samples were obtained by purposive sampling from the total of 1,200 students. The selected samples were 1,151 students, 95.92 percent of the total. They were those who answered all the questions in the questionnaire and whose answers can be analyzed.

Family is a basic social unit that greatly affects an individual. From the literature review, we can see that an appropriate level of family cohesion will lead to a balanced life. Family cohesion is fundamental to the individual's lifelong learning and personal development.

4.2 Variables used in research

Family cohesion refers to care and intimacy among family members, emotional bonds between each other, attention, appreciation and support for each other. Family cohesion consists of 9 components as follows:

1. Emotional bonding refers to the behavior of family members to express love, care, support, encouragement and praise. Family members support each other during difficult times and rejoice when the members succeed.

2. Boundaries refer to the appropriateness and clarity of relationship and role between husband and wife and parents and children. Parents have the freedom, privacy and control they deserve.

3. Coalitions refer to the unity of the whole family in accomplishing various missions together. Family members have harmony and union without feeling divided.

4. Time refers to allocating time to do daily activities together such as eating, watching television or having a chance to talk to each other.

5. Space refers to distance between family members, having space and privacy, respect for the rights of each family member and having their private space.

6. Friends refer to freedom to choose friends, introducing friends to family members and accepting each other's friends.

7. Decision-making refers to involvement in solving family problems, sharing ideas and making decisions on important family issues.

8. Interests refer to doing things together, sharing the same hobbies and showing interest in the activities of family members.

9. Recreation refers to participation in leisure activities, going on vacation, doing sports or outdoor activities together with the family when having free time or on special occasion.

4.3 Research tool

A tool to measure family cohesion is developed based on Olson's (2011) Circumplex Model of Marital and Family System. The measurement is in the form of a 6-point summated rating scales; strongly true, true, nearly true, nearly not true, not true and strongly not true. The interpretation of the score is such that those who score high have higher family cohesion than those who score low.

4.4 Data collection processes

      1. Contact the school to collect data
      2. Prepare the questionnaire, plan to carry out data collection and collect data
      3. Explain the purpose and benefits of the research to the students
      4. Describe how to answer the questionnaire to the students before they complete the questionnaire
      5. Select the questionnaires with the complete answer. Analyze the data for statistical significance

4.5. Statistics used for data analysis

The data analysis was conducted to confirm the quality of the tool to measure family cohesion. The processes are as follows.

      1. The quality of each item is analyzed for the first time. We looked for the discriminant power in each element of the model by using Item-total Correlation and compared Low Group with High Group using the 50-50 technique. We selected the statement that passed the statistical criteria, meaning the Item-Total correlation must be higher than .2 and the t-score is statistically significant, combined with the structure of the composition to select 4 to 5 workable statements of each component.

      2. The quality of each item is analyzed for the second time. The process is like the first time, i.e. finding the correlation coefficient of item-total correlation. The t-value was used to determine the correlation coefficient by using Cronbach's Alpha Coefficient for each component.

      3. Showing proof of accuracy of the questionnaire: in this research, evidence of structural integrity is shown by analyzing the confirmed elements in order to show the proof of accuracy of each component. We determine the components according to the hypothesis that the tool is compatible with the empirical data.

5. RESEARCH RESULTS

At first, the questionnaire contained 80 items divided into each component as follows: 11 items for emotional bonding, 10 items for boundaries, 10 items for coalitions, 7 items for time, 8 items for space, 10 items for friends, 10 items for decision-making, 6 items for interests and 8 items for recreation. Then three specialists on Behavioral Science validated the content accuracy by considering the compatibility between the questions and the operational definition. The specialists made suggestions for improvement to have better compatibility. The items were improved accordingly to make them clearer.

Then the improved version of the 80-item questionnaires was used as a tryout with 70 students using Item-Total correlation. We then selected the questions with discrimination value higher than 0.2 that cover the structure of the operational definition. The result of quality analysis for each item is as follows.

      1. The 11 items of emotional bonding show Item-Total correlation between 0.290 and 0.674. The confidence coefficient equals 0.857 and t-value is between 2.96 and 7.35.

2. The 10 items of boundaries show Item-Total correlation between 0.011 and 0.351. The confidence coefficient equals 0.455 and t-value is between 1.53 and 4.40.

3. The 10 items of coalitions show Item-Total correlation between 0.260 and 0.617. The confidence coefficient equals 0.775 and t-value is between 2.48 and 8.06.

4. The 7 items of time show Item-Total correlation between 0.486 and 0.690. The confidence coefficient equals 0.792 and t-value is between 3.93 and 7.58.

5. The 8 items of space show Item-Total correlation between 0.174 and 0.634. The confidence coefficient equals 0.705 and t-value is between 1.77 and 5.28.

6. The 10 items of friends show Item-Total correlation between 0.064 and 0.614. The confidence coefficient equals 0.756 and t-value is between 1.72 and 6.39.

7. The 10 items of decision-making show Item-Total correlation between 0.114 and 0.663. The confidence coefficient equals 0.698 and t-value is between 1.08 and 7.39.

8. The 6 items of interests show Item-Total correlation between 0.226 and 0.708. The confidence coefficient equals 0.706 and t-value is between 3.73 and 7.03.

9. The 8 items of recreation show Item-Total correlation between 0.174 and 0.515. The confidence coefficient equals 0.583 and t-value is between 2.37 and 5.13.

We then selected 43 items and ran another statistical analysis to check the quality with 200 students using Item-Total correlation and t-value. The result of quality analysis for each item is as follows.

1. In the 5 items of emotional bonding, the positive statements (number 1, 3, 4, 5) and the negative statement (number 2) show Item-Total correlation between 0.452 and 0.738. The confidence coefficient equals 0.806 and t-value is between 7.01 and 10.84.

2. In the 4 items of boundaries, all are negative statements (number 6, 7, 8, 9) showing Item-Total correlation between 0.274 and 0.593. The confidence coefficient equals 0.683 and t-value is between 6.86 and 11.12.

3. In the 5 items of coalitions, the positive statements (number 11, 12, 13) and the negative statement (number 10, 14) show Item-Total correlation between 0.428 and 0.602. The confidence coefficient equals 0.734 and t-value is between 8.72 and 10.71.

4. In the 5 items of time, the positive statements (number 15, 16, 18) and the negative statement (number 17, 19) show Item-Total correlation between 0.409 and 0.690. The confidence coefficient equals 0.762 and t-value is between 8.16 and 10.88.

5. In the 5 items of space, the positive statements (number 22, 23, 24) and the negative statement (number 20, 21) show Item-Total correlation between 0.456 and 0.593. The confidence coefficient equals 0.738 and t-value is between 5.47 and 10.79.

6. In the 5 items of friends, the positive statements (number 25, 26, 27, 28, 29) show Item-Total correlation between 0.345 and 0.611. The confidence coefficient equals 0.730 and t-value is between 6.97 and 10.87.

7. In the 5 items of decision-making, the positive statements (number 30, 31, 32, 33, 34) show Item-Total correlation between 0.332 and 0.642. The confidence coefficient equals 0.743 and t-value is between 8.90 and 11.90.

8. In the 4 items of interests, the positive statements (number 35, 36, 37, 38) show Item-Total correlation between 0.452 and 0.682. The confidence coefficient equals 0.766 and t-value is between 6.46 and 13.45.

9. In the 5 items of recreation, the positive statements (number 39, 40, 41, 42) and the negative statement (number 43) show Item-Total correlation between 0.416 and 0.612. The confidence coefficient equals 0.763 and t-value is between 8.36 and 12.60.
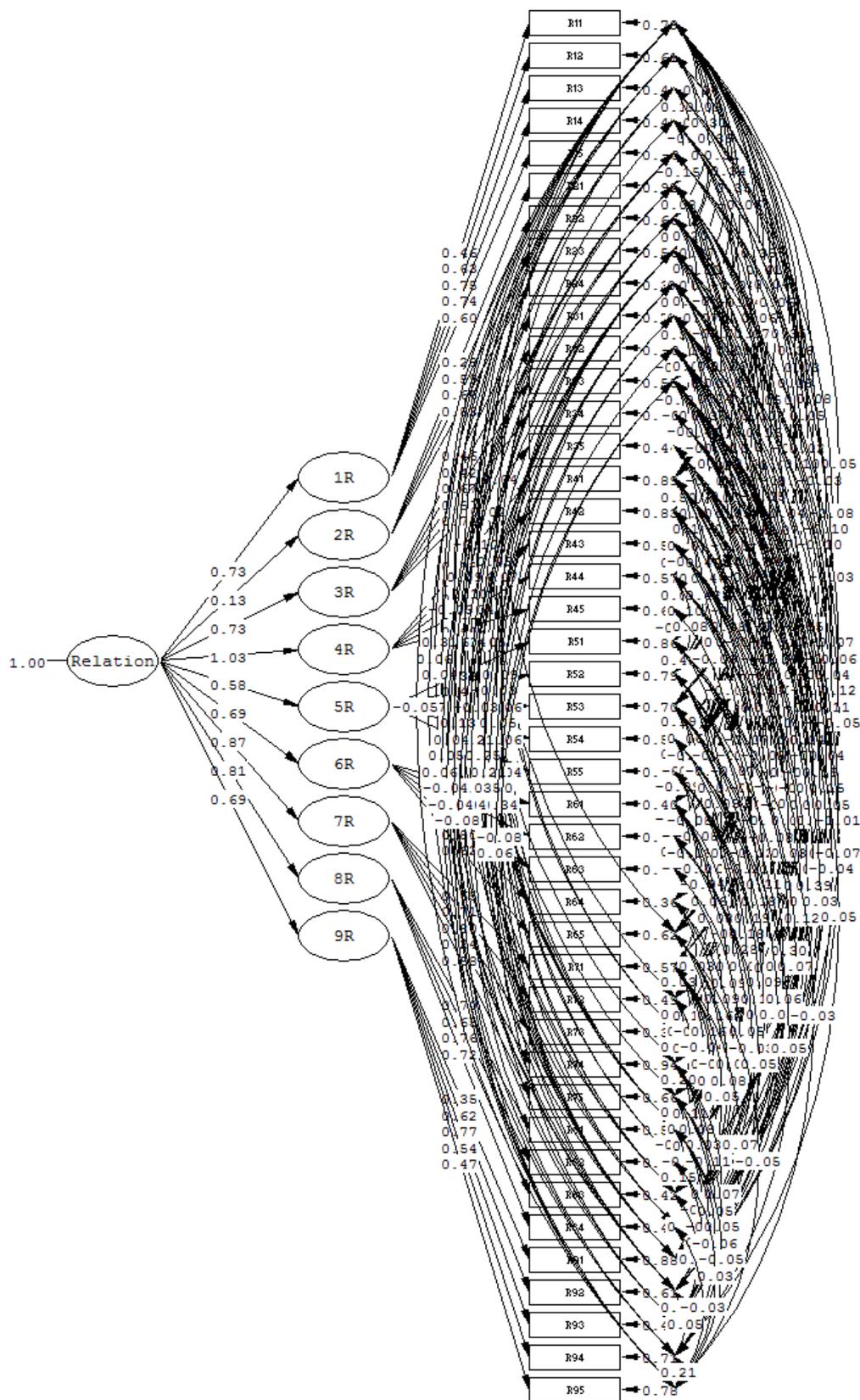
Then the improved questionnaire was used with 1,151 students and analyzed for a second order confirmatory factor analysis.

The second order confirmatory factor analysis aims to show proof of structural accuracy of Family Cohesion Model which consists of 9 components. The analysis reveals that Chi-square of the structural model before modification equals 14837.51 and p-value is significant at .000. This shows that the model is not compatible with the empirical evidence because Chi-square fluctuates according to the size of the sample. The bigger the size of the sample, the more significant is Chi-square. Therefore, we need to consider the ratio of Chi-square and free degree χ^2/df as well. We found that the ratio was 17.44 which was higher than the criterion, set as 3. When considering other compatibility indexes, we found that they do not pass the predetermined criteria: GFI equals 0.62; AGFI equals 0.58; RMSEA equals 0.12 and SRMR equals 0.12. Therefore, it is necessary to modify the model to be more compatible. We modified the changeability of the variable to be correlated to obtain the data that is compatible with the reality where variables have correlations. We considered the suggested value from Model Modification Indices: MI and Standardized Expected Parameter Change: SEPC until we received the model that is compatible with the empirical data. The result of the modified model is as follows: Chi-square equals 657.61 and *p-value* is significant at .000; Chi-square and free degree ratio equals (χ^2/df) 1.33; GFI equals 0.97; AGFI equals 0.95; RMSEA equals 0.02 and SRMR equals 0.05. Most indices are within the predetermined criteria except the Chi-square, as seen in Table 1. The final modified model is in Figure 1 and 2.

Table 1
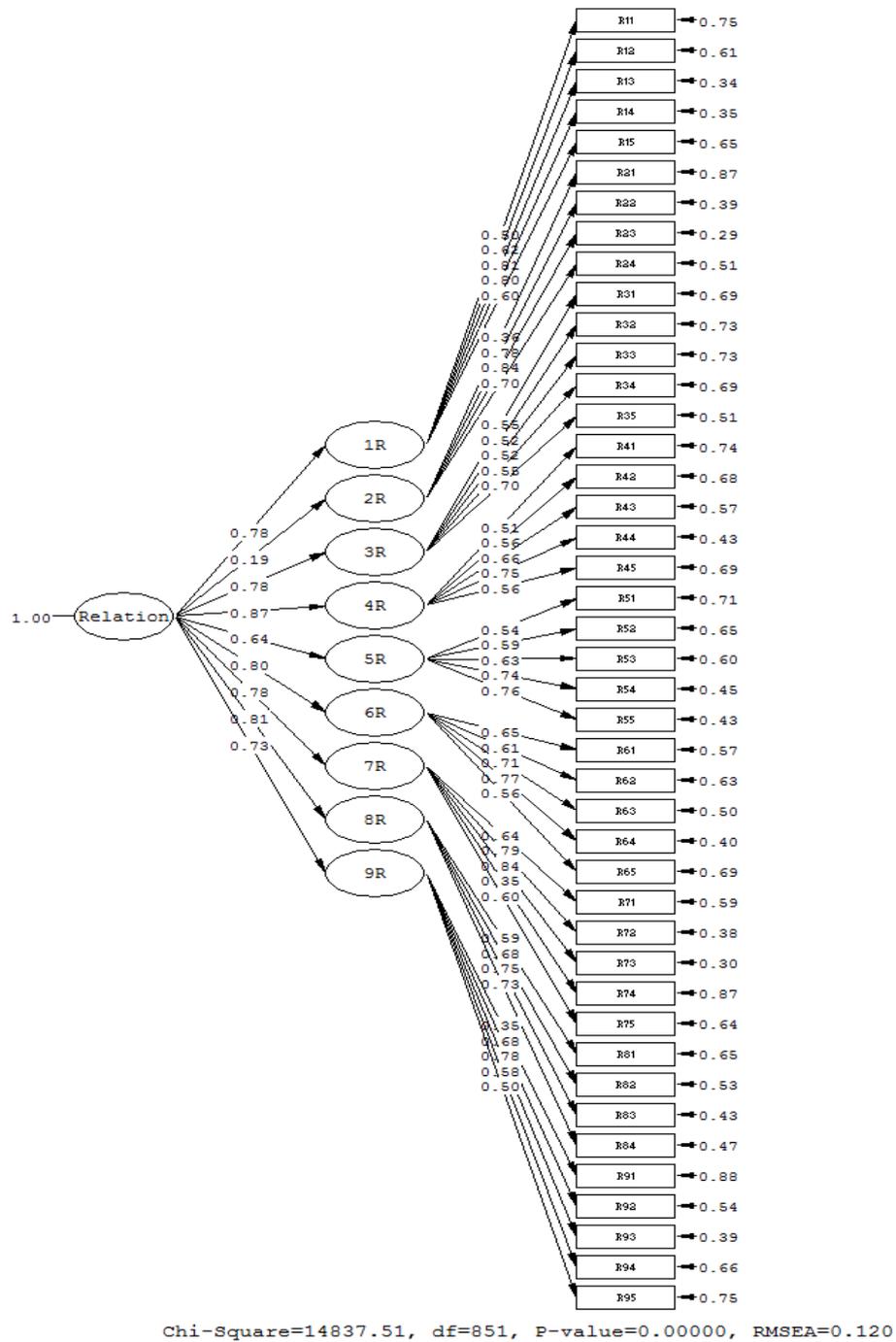Statistics of the hypothesized model and the overall empirical data

Indices	Criteria	pre-modification		post-modification	
		Statistics	Result	Statistics	Result
χ^2/df	< 3	14837.51/851 = 17.44	Failed	657.61/494 = 1.33	Passed
p value of χ^2	> .05	0.00	Failed	0.00	Failed
RMSEA	≤ .05	0.12	Failed	0.02	Passed
SRMR	≤ .05	0.12	Failed	0.05	Passed
GFI	> .90	0.62	Failed	0.97	Passed
AGFI	> .90	0.58	Failed	0.95	Passed

Figure 1
Result of second order confirmatory factor analysis of Family Cohesion (Pre-modification)

Chi-Square=657.61, df=494, P-value=0.00000, RMSEA=0.017

Figure 2
Result of second order confirmatory factor analysis of Family Cohesion (Post-modification)

Chi-Square=14837.51, df=851, P-value=0.00000, RMSEA=0.120

When the results shows consistency with the overall empirical data, we consider the statistics obtained from the analysis to determine the quality of the 9 latent variables and the quality of the questions in each component as follows.

When considering the component coefficients of the second component of the generated family cohesion questionnaire, which consists of 9 sub-components, the weight coefficients, estimated values and standard scores are between 0.13 – 1.03, which is statistically significant at .01 for all values (t=3.32 – 19.72). The components with weight coefficients, components, standard scores, and predictive coefficients (R^2) were ranked in descending order as follows: time (4R), decision-making (7R), interests (8R), emotional bonding (1R), coalitions (3R), friends (6R), recreation (9R), space (5R) and boundaries (2R). The predictive coefficients are 1.07, 0.75, 0.66, 0.54, 0.53, 0.48, 0.47, 0.34 and 0.02 respectively. The correlation between each component is between -0.06 – 1.03. We found that the components with predictive coefficients less than 0.50 are recreation (9R), space (5R) and boundaries (2R). This shows low to moderate ability to explain the variance.

The analysis of weight coefficients, both estimated values and standard scores, standard deviation (SE), significance test statistic, t-value, and predictive coefficient (R^2) of 43 questions divided by the 9 sub-components are as follows:

Emotional bonding (1R) consists of questions R11, R12, R13, R14 and R15. The weight coefficients of estimated scores equal 0.62, 0.58, 0.72, 0.74 and 0.69. The weight coefficients of standard scores equal 0.46, 0.63, 0.75, 0.74 and 0.60. The predictive coefficients (R^2) equal 0.21, 0.39, 0.57, 0.55 and 0.36. All weight coefficients are significant at .01 (t=13.64 – 14.90) and the standard deviations (SE) are between 0.04 – 0.05.

Boundaries (2R) consist of questions R21, R22, R23 and R24. The weight coefficients of estimated scores equal 0.36, 0.90, 0.91 and 1.15. The weight coefficients of standard scores equal 0.28, 0.59, 0.66 and 0.83. The predictive coefficients (R^2) equal 0.08, 0.34, 0.44 and 0.68. All weight coefficients are significant at .01 (t=5.94 – 7.61) and the standard deviations (SE) are between 0.15. We found that the question R21 has low standard score and can only explain the variance of the component for only 0.08.

Coalitions (3R) consist of questions R31, R32, R33, R34 and R35. The weight coefficients of estimated scores equal 0.61, 0.64, 0.83, 0.81 and 0.95. The weight coefficients of standard scores equal 0.46, 0.42, 0.67, 0.59 and 0.75. The predictive coefficients (R^2) equal 0.21, 0.18, 0.45, 0.34 and 0.56. All weight coefficients are significant at .01 (t=11.61 – 13.53) and the standard deviations (SE) are between 0.05 – 0.07.

Time (4R) consists of questions R41, R42, R43, R44 and R45. The weight coefficients of estimated scores equal 0.39, 0.55, 0.72, 0.62 and 0.56. The weight coefficients of standard scores equal 0.33, 0.42, 0.64, 0.65 and 0.60. The predictive coefficients (R^2) equal 0.11, 0.17, 0.41,

0.43 and 0.36. All weight coefficients are significant at .01 (t=10.68 – 12.86) and the standard deviations (SE) are between 0.04 – 0.07.

Space (5R) consists of questions R51, R52, R53, R54 and R55. The weight coefficients of estimated scores equal 0.52, 0.60, 0.56, 0.60 and 0.65. The weight coefficients of standard scores equal 0.38, 0.46, 0.55, 0.69 and 0.75. The predictive coefficients (R^2) equal 0.14, 0.21, 0.30, 0.47 and 0.57. All weight coefficients are significant at .01 (t=10.57 – 15.37) and the standard deviations (SE) are between 0.04 – 0.06.

Friends (6R) consist of questions R61, R62, R63, R64 and R65. The weight coefficients of estimated scores equal 0.84, 0.59, 0.67, 0.67 and 0.52. The weight coefficients of standard scores equal 0.78, 0.59, 0.66, 0.80 and 0.62. The predictive coefficients (R^2) equal 0.60, 0.34, 0.43 and 0.64. All weight coefficients are significant at .01 (t=15.51 – 19.83) and the standard deviations (SE) are between 0.03 – 0.04.

Decision-making (7R) consists of questions R71, R72, R73, R74 and R75. The weight coefficients of estimated scores equal 0.72, 0.80, 0.80, 0.35 and 0.70. The weight coefficients of standard scores equal 0.65, 0.71, 0.80, 0.24 and 0.58. The predictive coefficients (R^2) equal 0.43, 0.51, 0.63, 0.06 and 0.34. All weight coefficients are significant at .01 (t=6.55 – 19.62) and the standard deviations (SE) are between 0.04 – 0.05. We found that the question R74 has low standard score and can only explain the variance of the component for only 0.06.

Interests (8R) consist of questions R81, R82, R83 and R84. The weight coefficients of estimated scores equal 0.64, 0.89, 0.94 and 0.82. The weight coefficients of standard scores equal 0.70, 0.65, 0.76 and 0.72 and 0.62. The predictive coefficients (R^2) equal 0.49, 0.42, 0.58 and 0.52. All weight coefficients are significant at .01 (t=17.05 – 18.25) and the standard deviations (SE) are between 0.04 – 0.05.

Recreation (9R) consists of questions R91, R92, R93, R94 and R95. The weight coefficients of estimated scores equal 0.52, 0.79, 0.98, 0.68 and 0.61. The weight coefficients of standard scores equal 0.35, 0.62, 0.77, 0.54 and 0.47. The predictive coefficients (R^2) equal 0.12, 0.39, 0.60, 0.29 and 0.22. All weight coefficients are significant at .01 (t=10.01 – 11.58) and the standard deviations (SE) are between 0.06 – 0.08.

It can be concluded that the measurement consisting of all nine components is appropriate for the empirical data, based on the evaluation index. It was found that the weight coefficients of standard scores of all 8 sub-components ranged from 0.58 to 1.03 which was higher than 0.50 and the t-value was significant at .01. This shows that the 8 sub-components are significant or appropriate for being a latent variable of family cohesion. However, for the sub-component 2 (boundaries), the weight coefficients of standard scores was at 0.13, lower than 0.50. Although the t-test was significant at 0.01, it should be above 0.50 (Hair, et al., 1995: 642) to be qualified as a latent variable. In this research, the second order confirmatory factor analysis of family cohesion was conducted as well.

6. DISCUSSION

The research results reveal the following points:

1. The measurement model consisting of 9 sub-components is appropriate for the empirical data, based on the evaluation index. It was found that the weight coefficients of standard scores of all 8 sub-components ranged from 0.58 to 1.03 which was higher than 0.50 and the t-test was significant at .01, meaning that all 8 sub-components are significant and suitable for being part of latent variables of family cohesion. However, for sub-component 2, boundaries (2R), the weight coefficients of standard scores were at 0.13, lower than 0.50. Although the t-test was significant at 0.01, it should be 0.50 (Hair & others: 1995: 642) to be qualified as a latent variable.

2. We analyzed correlation coefficients between observable variables or the questions in the cohesion scale to examine the relationship between the variables studied to confirm that the variables share the same components and have sufficient relationships. We found that the correlation coefficients were mostly significant at .05 and .01 while a number of correlation coefficients had no statistical significance. For significant values, the correlation coefficients were found to be relatively low ($r < .40$) to moderate ($.40 < r < .60$). When we examined the relationships between the variables studied, we found that the correlation matrix between the variables tested by Bartlett's Test of Sphericity equaled 23137.800 df, which was 903 and statistically significant at .000 ($p < .001$). This indicates that the data were correlated. Moreover, the Kaiser-Meyer–Olkin number, showing how suited your data is, was at 0.939, close to 0.80, which is considered to be good. Kim and Mueller (1978: 22-25) argue that if the Kaiser-Meyer-Olkin number is greater than .80, the samples are very suited.

3. The second order confirmatory factor analysis of family cohesion reveals that once the results of the assessment are consistent with the empirical data as a whole, we then consider the statistics obtained from the analysis to determine the quality of all 9 latent variables and the quality of each item of each component. When considering the second order coefficients of the generated family cohesion questionnaire, the estimated and standard values of the weight coefficients are between $0.13 – 1.03$, all with .01 statistical significance ($t=3.32 – 19.72$). The sub-components with weight coefficients of standard scores and predictive coefficients (R^2) in descending order are as follows: time (4R), decision-making (7R), interests (8R), emotional bonding (1R), coalitions (3R), friends (6R), recreation (9R), space (5R) and boundaries (2R) with predictive coefficients at 1.07, 0.75, 0.66, 0.54, 0.53, 0.48, 0.47, 0.34 and 0.02 respectively, and the relationship values between the individual components are between -0.06 - 1.03. The result shows that the components with coefficients less than 0.50 are recreation (9R), space (5R) and boundaries (2R). This shows low to moderate ability to explain the variance. In conclusion, the measurement model consisting of 9 sub-components are suitable with the empirical evidence based on index. The standard coefficients of 8 sub-components are between $0.58 – 1.03$, higher than 0.50. T-test is significant at .01 showing that the 8 sub-components are significant and suitable for being part of latent variables of family cohesion. However, the sub-component 2 (boundaries) (2R) shows the standard coefficients only 0.13, lower than 0.50 although the t-value is significant at 0.01. From the research, we can conclude that the Circumplex Model of Marital and Family System can combine certain components together to yield 8 sub-components. We suggest that the component "boundaries" can be combined with the component "space". We hope that the measurements in this research can be used to checking risk management in family cohesion to prepare families to become stronger. Family cohesion to be a significant predictor of both desirable and problem behaviors in adolescents (Barber and Buehler, 1996).

4. Family relationship was family patterns that facilitate psychological and emotional fusion among family members, potentially inhibiting the individuation process and the development and maintenance of psychosocial maturity. Family cohesion reduces the risk of aggression, misconduct, anxiety, depression and problem behaviors of youths (Barber & Buehler, 1996). The checking level of family cohesion helps prevent risks and can manage problem behaviors of teenagers as well. Sharing activities of family members, such as eating, playing sports, will help promote a better relationship for greater closeness and will be risk management of family cohesion, also. You help prevent the risk of family relationships.

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