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Role of family communication patterns as predictors of behavioral health among students of public universities in north of Iran

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Abstract:

BACKGROUND: Communication is one of the oldest and greatest human achievements and the basis of social life. The aim of this study was to evaluate the role of family communication patterns as predictors of behavioral health among students of public universities in the north of Iran.

MATERIALS AND METHODS: In this cross-sectional study, a total of 461 students from all the public universities of Babol, Iran, were selected in 2019. A stratified sampling random method was used to select the samples. The demographic characteristics, Depression Anxiety Stress Scale, Acceptance and Action Questionnaire, Rosenberg self-esteem questionnaire, and Communication Skills Interpersonal Test were used to collect data. Simple and multi-variate linear regressions as well as Pearson's correlation coefficient were utilized for data analysis.

RESULTS: The mean and standard deviation scores of conversation orientation and conformity orientation were 35.61 ± 0.55 and 19.31 ± 0.41 , respectively. Family conversation orientation was a significant predictor of behavioral health scales of students (except for acceptance and action), predicting negatively and significantly depression, anxiety, stress, and positively self-esteem and inter-personal communication skills of students. Family conformity orientation was also a significant predictor of behavioral health scales (except for inter-personal communication skills) of students, which predicted positively and significantly depression, anxiety, stress, and negatively acceptance, action, and students' self-esteem.

CONCLUSION: To prevent behavioral health problems, it is necessary to observe conformity orientation and rely on conversation orientation.

Keywords:

Communication methods, conformity, family relations, health behavior, students

Introduction

Communication is among the oldest and greatest human achievements forming the basis of social life.^[1] The family has always been considered the most interesting and important human communication system defined as a legislative system whose members constantly express the nature of their relationships based on their communication patterns.^[2] One of

the prominent models in a family dealing with the desired interactions regarding its role in effective adaptation to the environment is the family communication pattern model, in which the roles, duties, and assignments of all family members should be organized in a systematic and coordinated manner.^[2-4] Basically, the concept of family communication pattern or family communication schema is defined based on the communication of family

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members with each other and what the members say to each other, as well as their actions and the significance of these communications. In the model of family communication patterns, there are two sub-dimensions of communication orientation and conformity orientation.^[5,6] The former is the extent to which families provide conditions encouraging all family members to freely and comfortably participate in interaction, discussion, and exchange of ideas regarding a wide range of topics. Conformity orientation is a measure of the extent to which families emphasize the conditions of matching attitudes, values, and beliefs.^[2]

Communication patterns are among the functions of a family and can affect behavioral health of people.^[7] Interactions and relationships within the family environment supports attachment, and affect the interpersonal relations.^[8] Parents play the first and most important role in the communication pattern of children, which affects their subsequent behavioral interactions as a main component of personality.^[1] Rather than being a personality trait, communication patterns are a function of experiences gained from family interactions. These dimensions determine how much family members talk about their thoughts and feelings and the extent to which they share them with each other.^[9,10] The social-emotional development starts with parental communication with the child. Family communication support is regarded as the foundation of a child's security and self-esteem.^[11] In fact, interaction between parents and children is considered the basis of a child's emotional development, which is reflected in all stages of life, including adolescence as one of the most important stages of life. The pattern of family communication or the expression mode of thoughts and feelings of its members is different from one family to another. Knowing these patterns contributes to the assessment of people's mental health status.^[2] Studies have shown that the family communication model as a component of life skills can be used both as a solution to improve behavioral and mental health and as a powerful tool for mental health guardians of the society to empower young people in psychological and social dimensions.^[1] Also, research has indicated that good communication and inter-personal skills play an effective role in preventing and decreasing the incidence of behavioral abnormalities and mental disorders, reducing drug abuse, preventing violent behaviors, strengthening self-reliance, improving skills to deal with pressures and stresses, and establishing optimal social relationships.^[1,12] Poor communication skills and inefficient emotional, psychological, and social abilities, especially in the family, make people vulnerable and expose them to a variety of mental, social, and behavioral disorders.^[13] Awareness of these patterns and communication skills safeguards a person from danger in critical life situations, preventing from all kinds of

mental-physical problems, psychological disturbances, personal depression, anxiety, and distress by facilitating the adaptability to the surrounding environment and arrangement of daily interactions, which enable a person to overcome mental stress.^[14]

Students are an important group in the country and play an active role in the education status of countries. Female students who in the future would be mother's upbringing the next generation play a vital role in the growth of society.^[15] Also, the competence of specialized and semi-specialized staff is estimated based on communication skills, and communication is described as the most important capacity for those working in primary health care.^[16] Therefore, taking advantage of the correct models of communication has a significant impact on future social and professional life of children. The health of adolescents is a combination of their physical, intellectual, emotional, and spiritual health as well as that of their parents and the quality of relationships between parents and adolescents.^[17] To the best of our knowledge, little is known about companionship as a component of the family communication pattern influencing the effectiveness and importance of behavioral health. Thus, this research aimed to investigate the role of family communication patterns as predictors of the behavioral health among students of public universities to identify the association between these communication patterns with behavioral health, which could be an effective step toward enriching human relationships, improving mental health and leading to healthy behaviors in young people.

Materials and Methods

Study design and setting

The present study was a cross-sectional research study conducted in public universities of Babol city, Mazandaran province of Iran, in 2019. Babol is a city in north of Iran with three public universities, including the Babol University of Medical Sciences, Technical Engineering, and Human Sciences. Students of public universities were invited to participate voluntarily during the research sampling period. Informed consent was obtained from all students.

Study participants and sampling

A total of 461 students were included in this study. Inclusion criteria were an age of 18–29 years, willingness to participate in research, and being female and single at the time of the study. Exclusion criteria were giving incomplete answers to the questionnaires and withdrawing from further cooperation in research. The sample size was calculated as 400 students according to the correlation ($r = 0.15$), with 95% confidence and 80% power, and 461 subjects were selected considering the

probability of 15% dropout. From among the students of all fields and educational levels studying in these colleges, stratified simple random sampling was done proportional to the number of students in each field. Therefore, eligible students from Babol University of Medical Sciences with 132 samples, Babol Noshirvani University of Technology with 175 samples, and Payame Noor University of Babol with 154 samples were selected.

Data collection tool and technique

Five questionnaires suitable for the research objectives were used for data collection, including the demographic characteristics questionnaire, revised family communication patterns questionnaire (RFCQ), Depression, Anxiety, and Stress (DASS), Acceptance and Action, self-esteem, and Interpersonal Communication Skills.

Demographic questionnaire

The first questionnaire included questions regarding socio-demographic characteristics.

Revised family communication patterns questionnaire

The revised family communication patterns questionnaire (RFCPQ) includes 26 items rated on a five-point Likert scale ranging from completely disagree (score 0) to completely agree (score 4) to evaluate two sub-scales of conversation orientation (15 items) and conformity orientation (11 items).^[18] The score range in the conversation orientation and conformity orientation sub-scales is 0–60 and 0–44, respectively. A higher score in conformity orientation emphasizes harmonious opinions, attitudes, avoiding conflict, and inter-dependence among members. Conversation orientation is defined as creating a free and comfortable space for family members to participate in conversations on various topics. Children of families with higher conversation orientation scores have better mental health and academic achievement with higher capacity for adaptability. The reliability of the questionnaire was confirmed with a Cronbach's alpha coefficient of 0.87 and 0.81 for conversation orientation and conformity orientation, respectively. The reliability and validity of this scale, which is developed by Koroshnia and Latifian, have been confirmed in Iran.^[2]

Depression, Anxiety, and Stress Scale

The DASS questionnaire is an inventory of 21 questions including three sub-scales, each with seven questions. Questions 1 to 7, 8 to 14, and 15 to 21 are related to depression, anxiety, and stress, respectively. The total score of a person varies from 0 to 21, and a lower score indicates a better mental health status. The reliability of this tool was reported with a Cronbach's alpha of 0.95 for depression, 0.90 for anxiety, and 0.93 for stress.

The validity and reliability of this questionnaire in Iran have been confirmed by Salari-Moghaddam *et al.*,^[19] and validated by Sahibi *et al.*^[20]

Body-Image Acceptance and Action Questionnaire (BI-AAQ)

This questionnaire is a self-report instrument for measuring acceptance and action, which has 12 questions scored on a seven-point Likert scale. The total BI-AAQ score range is 12–84, and higher scores indicate lower acceptance and action. The Cronbach's alpha coefficient of this questionnaire was found to be 0.87.^[21]

Rosenberg self-esteem questionnaire

Rosenberg's self-esteem questionnaire contains 10 items rated on a four-point Likert scale (0-3) with a score range of 0–30. A score <14 means unfavourable self-esteem, 15–25 good, and >25 very good self-esteem. The validity and reliability of Rosenberg's self-esteem questionnaire in Iran have been confirmed by Mohammadi. The reliability of this scale was reported on a sample of Shiraz University students using a Cronbach's alpha of 0.69. Also, the re-test coefficients of this scale were reported as 0.77 after 1 week, 0.73 after 2 weeks, and 0.78 after 3 weeks.^[22]

Inter-personal Communication Skills Test

Inter-personal Communication Skills Test includes 19 five-choice questions with a score range of 19–95. The options for each question are very low, low, satisfactory, good, and very good, which are graded from 1 to 5. A score <45 means an acute communication problem, a score of 46–65 is indicative of a communication problem, and 66–95 shows a person's ability to communicate. Validity and reliability of this test have been confirmed by Agha Mohammad Hasan *et al.* with a Cronbach's alpha of 0.82.^[23]

The collected data and demographic variables were analyzed using descriptive statistics and standard deviation. Data were analyzed by SPSS Statistics for Windows, Version 22.0 (IBM SPSS Statistics for Windows, Version 22.0. Armonk, NY: IBM Corp). Pearson's correlation test was utilized to determine the correlation between variables, and a multi-variate linear regression test analyzed the predictors for dimensions of family communication patterns on behavioral health of students. The significance level was considered to be <0.05.

Ethical consideration

The questionnaires of this project were distributed among the students after explaining research objectives and obtaining written consent to participate with ethical code IR.MUBABOL.HRI.REC.1397.129. The research was conducted according to the declaration of Helsinki.

Results

A total of 461 students were recruited. According to the results, the majority of students (62.3%) were 18–21 years old. Also, most mothers (69.8%) were housewives, and most fathers (53.3%) were self-employed. The majority of students were studying at levels lower than Ph.D. (83.3%). The educational level in the majority of mothers (66.5%) and fathers (56%) was lower than high-school diploma. Table 1 describes the demographic data of the students.

The mean and standard deviation scores of family communication patterns and the dimensions, including conversation orientation and conformity orientation, were 54.92 ± 12.19 , 35.61 ± 11.76 , and 19.31 ± 8.91 , respectively. The mean and standard deviation scores of behavioral health scales, including DASS, were 13.60 ± 9.62 , 12.49 ± 8.74 , 18.66 ± 8.87 , respectively. The mean and standard deviation scores of other behavioral scales, including Acceptance and Action, self-esteem, and Communication Skills Interpersonal, were 31.78 ± 16.16 , 19.54 ± 5.91 , and 61.78 ± 10.12 , respectively [Table 2].

Pearson's correlation coefficient revealed that the conversation orientation dimension was directly correlated with the score of self-esteem ($\rho = .389$, $P = .0001$) and inter-personal communication skills ($\rho = .275$, $P = .0001$). Also, the conversation orientation dimension was inversely correlated with the score of conformity orientation ($\rho = -.330$, $P = .0001$), depression ($\rho = -.311$, $P = .0001$), anxiety ($\rho = -.167$, $P = .0001$), stress ($\rho = -.192$, $P = .0001$), and acceptance and action ($\rho = -.122$, $P = .009$). In other words, it reduced conformity orientation, depression, anxiety, stress, acceptance, and action but increased self-esteem and inter-personal communication skills.

The conformity orientation dimension was directly correlated with the scores of depression ($\rho = .256$, $P = .0001$), anxiety ($\rho = .206$, $P = .0001$), stress ($\rho = .230$, $P = .0001$), and acceptance and action ($\rho = .189$, $P = .0001$). Also, the conformity orientation dimension was inversely correlated with the score of self-esteem ($\rho = -.216$, $P = .0001$). In other words, it increased depression, anxiety, stress, and acceptance and action and reduced self-esteem [Table 3].

Multiple regression analysis was used to determine the predictive factors of behavioral health variables in each dimension of family communication patterns. All variables of conversation orientation and conformity orientation are introduced into the model at the same time with simultaneous multiple regression methods (Enter). Results of multiple linear regression of family communication patterns dimensions on behavioral

Table 1: Individual-family characteristics of students

Variable	Frequency	Percentage
Age (years)		
22 ≥	287	62.3
22 <	174	37.7
Mother occupation		
Housewives	322	69.8
Employed	139	30.2
Father occupation		
Unemployed	7	1.5
Employee	132	28.7
Self-employed	245	53.3
Retired	76	16.5
Student Education		
<PhD	384	83.3
>PhD	77	16.7
Mother Education		
<Diploma	307	66.6
≥Diploma	154	33.4
Father education		
<Diploma	258	56
≥Diploma	203	44

Table 2: Mean and SD of family communication patterns and behavioural health scales

Variables	Min	Max	Mean	SD
Family communication patterns				
Conversation Orientation	2	59	35.61	11.76
Conformity Orientation	0	44	19.31	8.91
Behavioral health scales				
Depression	0	42	13.60	9.62
Anxiety	0	42	12.49	8.74
Stress	0	42	18.66	8.87
Acceptance and Action	12	84	31.78	16.16
Self-esteem	0	30	19.54	5.91
Communication Skills Interpersonal	30	93	61.78	10.12

health scales showed that family conversation orientation was a significant predictor of behavioral health scales of students (except acceptance and action), which predicted negatively and significantly depression ($\beta = -.254$, $P = .0001$), anxiety ($\beta = -.111$, $P = .022$), and stress ($\beta = -.131$, $P = .006$) and positively self-esteem ($\beta = .357$, $P = .0001$) and inter-personal communication skills of students ($\beta = .298$, $P = .0001$). Family conformity orientation was also a significant predictor of behavioral health scales (except for inter-personal communication skills) of students. It predicted positively and significantly depression ($\beta = .173$, $P = .0001$), anxiety ($\beta = .169$, $P = .0001$), and stress ($\beta = .186$, $P = .0001$) and negatively students' self-esteem ($\beta = -.098$, $P = .031$) and acceptance and action ($\beta = .166$, $P = .001$). The family conversation orientation and conformity orientation predicted 12.3%, 5.3%, 6.8%, and 16% of the variance of depression, anxiety, stress, and students' self-esteem, respectively. Family communication orientation predicted 8% of the variance of inter-personal

communication skills, and family conformity orientation predicted 4% of the variance of students' acceptance and action [Table 4].

Discussion

In this research, the role of family communication patterns in the behavioral health of public universities students was investigated.

The results showed that the communication orientation variable has a significant negative relationship with depression, anxiety, and stress, which means that it reduces depression, anxiety, and stress. The results are

in line with previous research findings of Kourosch Nia and Latifian,^[2] Bayat,^[24] and Shahraki Sanav *et al.*,^[17] and Studies show that an individual's behavior is mainly developed in the family ambience,^[18] and conversation orientation refers to support and open conversations between family members so that they are encouraged to express their emotions and thoughts independently.^[25] Typically, factors such as disturbance in the relationship between teenagers and their parents lead to the feeling of anxiety in the teenager. In addition to anxiety, teenagers are also vulnerable to depression.^[2] Turmoil in family relationships (inefficient communication patterns and low communication orientation) will also affect the children and decrease their happiness.^[24] A review of

Table 3: Correlation coefficient matrix between the dimensions of family communication patterns and behavioral health scales

Scores of variables	Family communication patterns		Behavioral health scales					
	Conversation orientation	Conformity orientation	Depression	Anxiety	Stress	Acceptance and action	Self-esteem	Communication skills interpersonal
Family communication patterns								
Conversation Orientation	1							
Conformity Orientation	-0.330**	1						
Behavioral health scales								
Depression	-0.311**	0.256**	1					
Anxiety	-0.167**	0.206**	0.600**	1				
Stress	-0.192**	0.230**	0.656**	0.590**	1			
Acceptance and Action	-0.122**	0.189**	0.377**	0.434**	0.309**	1		
Self-esteem	0.389**	-0.216**	-0.539**	-0.298**	-0.431**	-0.286**	1	
Communication Skills Interpersonal	0.275**	-0.208	-0.338**	-0.242**	-0.244**	-0.215**	0.373**	1

**Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed). Note: Statistical significance was determined by calculating Pearson's correlational analysis

Table 4: Results of multiple linear regression of communication patterns and dimensions on behavioral health scales

Variables	R	R ²	F	SE	Beta	t	P	CI%	
								Low	High
Depression									
Conversation Orientation	0.351	0.123	32.148	0.019	-0.254	-5.491	0.0001	-0.142	-0.067
Conformity Orientation				0.025	0.173	3.737	0.0001	0.044	0.143
Anxiety									
Conversation Orientation	0.231	0.053	12.902	0.018	-0.111	-2.298	0.022	-0.076	-0.006
Conformity Orientation				0.024	0.169	3.519	0.0001	0.037	0.130
Stress									
Conversation Orientation	0.261	0.068	16.706	0.018	-0.131	-2.743	0.006	-0.085	-0.014
Conformity Orientation				0.024	0.186	3.899	0.0001	0.046	0.140
Acceptance and Action									
Conversation Orientation	0.199	0.040	9.453	0.067	-0.067	-1.390	0.165	-0.224	0.038
Conformity Orientation				0.088	0.166	3.431	0.001	0.129	0.475
Self-esteem									
Conversation Orientation	0.400	0.160	43.621	0.023	0.357	7.861	0.0001	0.135	0.244
Conformity Orientation				0.030	-0.098	-2.170	0.031	-0.125	-0.006
Communication Skills Interpersonal									
Conversation Orientation	0.283	0.080	19.962	0.041	0.298	6.288	0.0001	0.177	0.377
Conformity Orientation				0.054	0.071	1.489	0.0137	-0.026	0.186

literature demonstrated that the family setting played an important role in handling the stress factor and flexibility in dealing with stress-causing factors in children.^[26] Another study showed that family communication is a vital matter since poor communication leads to tension in the family and negatively affects children.^[27] Therefore, in explaining this finding, it can be stated that through involving teenagers in making decisions, opportunities are provided for their self-expression and independence, enriching the emotional atmosphere of the family where the teenagers feel social support from the family, which results in increasing satisfaction and better mental health status of family members.

The results of the present study revealed that among the predictor variables, conformity orientation was a positive predictor for depression, anxiety, and stress, which is in line with the study of Bayat.^[24] According to a study by Kouros Nia and Latifian *et al.*, family conformity orientation significantly and positively predicts children's anxiety, but it is not a significant predictor for their depression.^[2] Furthermore, another research revealed that this type of orientation emphasizes obedience to adults and parents who believe in the traditional family structure and for whom the age structure is important in holding a hierarchical view of the family structure.^[6] Communication and interaction within the family are more important than communication outside the family. In this regard, a previous study showed that communication between family members is the most basic mechanism for understanding many psycho-social behaviors, including anxiety and depression in children.^[2] Conformity orientation addresses an environment displaying conflicting values, beliefs, and attitudes in the family members.^[25] In this context, Argyle considers social relations to be a component of happiness and believes that the family is the strongest bond of social relations. Accordingly, it can be said that communication patterns are a function of the family that can affect the spirit of happiness in people.^[7]

The findings of this study revealed a significant positive association between conversation orientation and self-esteem in students, and conformity orientation was inversely correlated with self-esteem. Hemati *et al.* showed that the score of conversation orientation dimension directly correlated with the self-efficacy score. Moreover, higher conformity orientation is associated with lower self-efficacy in adolescents.^[18] Another study showed that in families that have forced their members to unify their attitudes, in which values and beliefs consider parents as decision-makers, there are consequences such as embarrassment and low self-esteem and a kind of chaos in family relationships, which apparently does not contribute to the satisfaction

and happiness of the teenager. At the social level, it can also be stated that autocratic or anarchic societies lead to worry, insecurity, and unhappiness in life for their members.^[24] In this regard, Bandura believes that efficient interaction patterns in healthy families play a main role in self-efficacy promotion of children. Families with high conformity believe that individual plans should be coordinated with family members, and they expect family members to subdue their personal interests to the family. Parents make decisions for the family and expect children to follow their wishes,^[6] which can negatively influence the self-efficacy of teenagers.

The results of this research showed that conversation orientation and conformity orientation had a positive significant association with inter-personal communication skills in students. A review of literature revealed that communication between family members is considered as one of the most crucial aspects of inter-personal relationships.^[2] Mashalpoore Fard *et al.* believed that family is one of the most essential factors in the all-round development of children.^[28] Both conversation- and conformity-oriented families can form the worldview of their children via verbal and non-verbal behavior and have considerable impacts on the family members through relational interactions.^[29] Family can be considered as a social unit and foundation of human relationships.^[30] Akbari Booreng stated that patterns of family communication are an approach for family members to interact with one another.^[27] In the family conversation pattern, all family members discuss and share their ideas about a wide range of topics^[31] and spontaneously interact with one other.^[32] Therefore, in explaining this finding, it can be stated that the dimensions of conversation and conformity orientation determine inter-personal communication and the degree to which members of a family share their thoughts and feelings. It is certain that the appropriate interactions of family members in the form of open communication and warm and supportive behavior have a positive effect on children's inter-personal skills.

The results showed that higher family conformity orientation was associated with lower body-image acceptance and action. A review of scientific literature indicated that family is the first factor influencing body images, which can play a main role in forming the concept of body in children.^[33] In a family with conformity orientation, there is an environment demonstrating conflicting beliefs, values, and attitudes in members of family,^[25] which cannot have good effects on body image acceptance and action in children. Moreover, with respect to this topic, it is interesting to note that despite the mental nature of the body image, it can be considered as a social phenomenon,^[34] which is less evident in families with high conformity and

can lead to severe physical or psychological health problems.^[33] In Baharvand *et al.* study, there were body image concerns among the students, and they sought reassurance from others about their appearance. Concerns about body images negatively affected their academic and social performance. Concerns over body images among students who are the human capital of a society are indicative of a challenge to their physical and mental health. Since students play an important role in the future development of a country, their mental and physical health should be considered by relevant authorities. Adolescents with body image concerns should be detected and treated properly to improve their behavioral health status.^[35] Based on the finding of this research, there is a need for more family communication support to improve the body image acceptance and action of students.

Limitation and recommendation

One of limitations of this research was students' self-report while completing the questionnaires, which may not have provided accurate information to the study team. Since this research was conducted only among selected students in public universities of Babol, the findings cannot be generalized to all students in other parts of the country. It is recommended to conduct this research on a larger scale of private and public university students, especially in other cities.

Conclusion

The results of this research showed that there is a complex relationship between family communication patterns (conversation orientation, conformity orientation) with behavioral health scales in female students. Therefore, it is recommended to carry out behavioral health assessments of students, provide counseling services, and hold training workshops on behavioral health skills of students.

Author contributions

A.B., H.P; F.K Conceptualization, Writing - Original draft preparation, Writing - Review and Editing, Project administration, Formal analysis, and Supervision. F.N.A; E.S Investigation., Writing- Reviewing and Editing, Formal analysis. A.B; H.P Methodology, Software, Validation, Data Curation. All authors read and approved the final manuscript.

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Conflicts of interest

There are no conflicts of interest.

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