The Analysis of the First Year High School Teachers' Viewpoint on Mathematical Anxiety, Reasons and Resolving Methods

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Abstract: The purpose of this study is to analyze the mathematical anxiety of students and teachers viewpoint on the causes of mathematical anxiety in students. The population of this study was the Zabol city first year high-school students and their teachers among who 150 students and 30 teachers were selected as the research samples by the cluster method. The research tools are the mathematical anxiety questionnaire and the questionnaire provided the researcher to measure teachers, viewpoint. The data analysis was performed by the SPSS software, using the descriptive and inferential stats (independent T-test for student, Pearson correlation, ANOVA). The results showed that most students have moderate anxiety. And anxiety between boys and girls differs at 1% significance. The findings showed that the GPA is negatively and significantly correlated with anxiety at 1% level. The results indicated that according to the teachers mathematics is the factor that is mainly responsible for the anxiety among the students. The lack of teaching mathematics through a scientific and applicative method, lack of attention to the requirements of the learner, and the methods of teaching mathematics had the greatest effect on the field of education in creating mathematical anxiety among students.
Keywords: mathematical anxiety; teachers' viewpoint; teaching..

INTRODUCTION

One of the factors that can be problematic in studying mathematics and the related positive aspects is the mathematical anxiety. It seems that mathematical anxiety is a problem for many students. Mathematical anxiety is an uncomfortable situation that emerges when the student wants to do their mathematics homework [1]. Here the researchers consider the role of anxiety effective in the mathematical progress of the students and the acquisition of scientific fields including mathematics [2].

"Mathematical anxiety" is the psychological status that appears when confronting the mathematical content in education, learning and solving math problems or measuring the mathematical behavior of the individuals. These situations are usually combined with high anxiety, depression and mental disorders, imposed thoughts, stress and stop thinking [3].

Today mathematical anxiety is the center of attention and interest of specialists in teaching mathematics and the cognitive psychologist so that they could understand the impact of the anxieties and emotions of students caused by mathematics and find practical strategies to scientifically control them [4]. Alamolhodaei [5] considers mathematical anxiety as a psychological status that appears when confronting the mathematical content in education, learning and solving math problems or measuring the mathematical behavior of the individuals. This situation is usually coupled with high anxiety, depression and mental disorders, imposed thoughts, stress and stop thinking. Richardson and Suinn [6] define mathematical anxiety as the concerns caused by solving the math problems at different stages of life and special situations [7].

Mathematical anxiety is defined as "a general lack of comfort, that person may experience when needing a mathematical practice" or feeling stress, depression and mental breakdown when they are involved in tasks that require the use of knowledge of mathematics [6].

Tobias [8] considers mathematical anxiety a tension that interferes everyday life and in academic excellence through using numbers and mathematical problem solving and it can prevent the effective function of cognitive factors and the result of this emotional interference is to forget needed information and lose confidence. Some researchers have emphasized the multidimensional nature of the construct of mathematical anxiety; for example, Kazeleskis [9] through the factor analysis

indicated that mathematical anxiety includes 6 factors: digit anxiety, mathematical course anxiety, math test anxiety, negative feelings about mathematics, positive feelings about mathematics and anxiety. Kazeleskis [9] argues that although there is a strong correlation between these dimensions, each of them measures a different aspect of mathematical anxiety.

Karimi and Venkatesan [10] and Mohamed and Tarmizi [1] showed that there is a significant negative correlation between academic performance and mathematical anxiety. Research results indicated that students of the humanities and mathematics had experienced the lowest and highest mathematical anxiety respectively [11].

There are a variety of factors affecting mathematical anxiety and the most important of which include the learning environment and teaching methods. Clut [12] found out that there is a significant correlation and interaction between choosing teaching method and mathematical anxiety. Hence in order to teach mathematics effectively it is necessary to analyze the successful methodologies.

It must be noted that mathematical anxiety is much more than a lack of interest in mathematics [13] because the anxiety is a complicated phenomenon affecting emotional, behavioral and cognitive responses of an individual [1].

Various studies suggest that students who have mathematical anxiety possess known motivational and emotional factors that can be devised as the predictors of mathematical anxiety [14].

On the other hand teachers can cope well with teaching responsibility if they are aware of the principles of educational psychology. One of the tasks of educational psychology is to investigate the psychological problems of the students. Researchers believe that teachers should have the capability of learning and applying knowledge, skills, principals and the results of psychological researches and they should well recognize that some students might be experiencing anxiety and fear for various reasons and look for emotional security. There are some studies conducted on the role of the teacher in the cognitive, motivational, academic and social functions [15], research in the field of correlation between school variables and students' anxieties and anxiety regulation have studies the role of teacher and his attitude in the expression of anxiety of students [16]. Teachers can affect student anxiety both directly and in directly through verbal messages about the value of academic activities and their behavior by learning assignments respectively. The correlation between teacher characteristics and student enjoyment (close relationship) was also approved. Students who think of

their math teacher as an understanding supportive person experience more educational enjoyment. Therefore, this study addresses the viewpoint of the math teachers toward the mathematical anxiety of students.

METHODOLOGY
Methods
The research method is descriptive - analytic because the researcher using a questionnaire is intended to evaluate the students' mathematical anxiety.

Population
The population consisted of middle school teachers and their students in Zabol City including 40 math teachers and their students in 2013-2014.

Samples and Sampling Method
In this study, 30 teachers and 120 students from all courses studying the mathematics, science and humanities, and science and technology were selected. Cluster sampling was used for the selection of the sample.

Tools of data collection
Mathematical Anxiety Questionnaire
This test consists of 28 items that measures mathematical anxiety of students at different situations in facing math problems.

Scoring Method
The questions are based on the Likert score ranging from very low to very high. The score allocated for each option is 1, 2, 3, 4, and 5 respectively.

Teacher's Viewpoint Questionnaire
To examine teachers' views about students' mathematical anxiety the researcher's questionnaire was used. This questionnaire included questions about teachers' views about the causes of mathematical anxiety in students.

Reliability and Validity of the Questionnaire
Cronbach's alpha coefficient for internal reliability of the test items is 0.61. In this study, the reliability was evaluated using Cronbach's alpha for the 28 items; Cronbach's alpha coefficient of 0.858 was obtained indicating the reliability of the questionnaire.

Table 1:The reliability of anxiety

Cronbach's Alpha Coefficient	Number of Items
0.858	28

Validity and reliability of the teachers' questionnaire was assessed by Cronbach's alpha and for 20 items, Cronbach's alpha coefficient was 0.712, which indicates the high reliability of the questionnaire.

Table 2: The reliability teachers' viewpoint questionnaire

Cronbach's Alpha Coefficient	Number of Items
0.712	20

Math Performance

The final test results of the students were considered as the math performance of the students.

Research Variables

Independent variables: mathematics anxiety and mathematics teacher views
Dependent variable: math performance of students
Control variable: gender and grade

Data Analysis

In this study after data collection and extracting from the questionnaires the obtained information were processed and analyzed using SPSS software

Description

First observations are described using descriptive statistics including frequency tables and statistical (distributional) graphs.

Inferences

The observations are analyzed by inferential statistics such as Pearson's correlation coefficient test, and the student t-test and ANOVA.

Data Analysis

In this study, considering the hypotheses of the study and the sample group the descriptive and inferential statistics (Pearson's correlation test, ANOVA, Student t-test) was used. For this reason the SPSS software was utilized.

Descriptive Analysis of Students
Gender indicators

Table 3: Frequency distribution of students by gender

Sex	Number	Percent	Cumulative Percentage
Female	65	54.2	54.2
Male	55	45.8	100
Total	120	100	

The above table information shows that 54.2 percent of students were female and 45.8 percent were male.

GPA index
Table 4: Frequency of students based on GPA

Average	Number	Percent	Cumulative Percentage
9 – 12	7	5.8	5.8
13 – 16	39	32.5	38.3
17 – 20	74	61.7	100
Total	120	100	

The above table information shows that 5.8% of students had a GPA of 9-12, 32.5 percentage had 13-16 and 61.7 percent of students had the GPA of 17 to 20. It shows that a high percentage of students had a very good GPA and few of them had a low GPA.

Anxiety Index
Question 1. How much is the students' mathematical anxiety?

Table 5: Frequency of students' anxiety

Anxiety	Number	Percent	Cumulative Percentage
Low	18	15	15
Medium	93	77.5	92.5
Large	9	7.5	100
Total	120	100	

The table's data and the above graph show that 15% of students had low anxiety, 77.5% had moderate anxiety and 7.5% showed severe anxiety. It can be observed that most students have moderate anxiety.

Difference in the amount of anxiety between the girls and boys

To examine differences in anxiety levels between boys and girls one-sample t-test was used.

Table 6: Mean and standard deviation (SD) of students' anxiety

Anxiety	Number	Mean	SD	Standard Mean-Deviation
Female	65	1.8	0.474	0.058
Male	55	2.07	0.424	0.057

Table 7: Results of one-sample t-test anxiety for students

	t-test	Freedom	Significance (Sig)	Difference
equal	3.293-	118	0.001	-0.272
unequal	3.324-	117	0.001	-0.272

One-sample t-test results showed that there are differences between boys and girls anxiety. T value was equal to -3.293 and the significance level of 0.001, which indicated a significant difference, is at 1%. So it

can be said that the boys and girl's students anxiety difference is significant at 1% level.

The relationship between anxiety and students' GPA

To investigate the relationship between anxiety and student's GPA Pearson's correlation coefficient test was used.

Table 8: Pearson correlations between the anxiety of students and their GPA

		Anxiety
GPA	Correlation	-0.294
	Significance	0.001
	Number	120

As the above table shows the GPA is significantly and negatively associated with anxiety at 1%. That is the higher the GPA, the lower the students' anxiety levels.

Descriptive Analysis of Teachers
Gender indicators

Table 9: Frequency of math teachers by gender

Sex	Number	Percent	Cumulative Percentage
Female	13	43.3	43.3
Male	17	56.7	100
Total	30	100	

The above table information shows that 43.3 % of math teachers were female and 56.7% were male.

Index of experience

Table 10: Frequency based on the experience of math teachers

Experience	Number	Percent	Cumulative Percentage
0-5	2	6.7	6.7
6-10	12	40	46.7
11-15	9	30	76.7
16-20	6	20	96.7
21-25	1	3.3	100
Total	30	100	

As we can see in the above table and graph 6.7 % of math teachers had five-years of experience, 40 % had 6 to 10 years of experience, 30% of the teachers had 11 to 15 years of experience, 20% had 16 to 20 years of experience and 3.3% had 20 to 25 years of experience.

Education

Table 11: Frequency of Education of Math Teachers

Education	Number	Percent	Cumulative Percentage
Associate's degree	5	16.7	16.7
Bachelor	24	80	96.7
Master	1	3.3	100
Total	30	100	

As you can see in the above table 16.7% of math teachers had associate's degree, 80% had bachelor's degree and 3.3 percent of them had master's degree.

Inferential Analysis
Factor analysis

In order to determine math teachers viewpoint about students' anxiety factor analysis was used. First in order to conduct test factor analysis the KMO and Bartlett's test were done to make sure about the adequacy of the sample size and also make sure that the correlation matrix is not equal to zero.

Table 12: KMO and Bartlett test

KMO Test for Adequacy of Sample Size	0.872
The chi-square value	1835.96
Degrees of freedom	190
level of Significance	<0.001

As can be seen in the table, and given that the test significance level is less than 0.05 in KMO test then test is significant and factor analysis can be done. Also, 0.872 shows sampling adequacy (KMO).

Thus, for 20 components of the questionnaire, factor analysis was conducted and examined by the Bartlett test and of significance level fitness. Through entering the 20 components into the equation based on the Initial Eigenvalue index in which the amounts higher than 1 value are the basis of function, 6 factors based on the percentage of explained variance were extracted and analyzed which are more important than other factors and the Scree *plot* indicates it.

Factor analysis revealed six major causes of anxiety in student based on the teachers' viewpoint. As shown in Table 13. 78.085% of the variance is estimated by the 6 factors.

For a better distribution factor analysis variance was conducted with varimax rotation using and the distribution of variance between factors indicates the balance and insignificant difference between them. And except the second and third factors

that have higher difference, the rest of the factors are slightly different in terms of defined variance.

To determine the distribution of variables and naming the factors, the variable distribution matrix between various factors is calculated and shown in Table 14.

Based on factor analysis with varimax rotation and eliminating variables that contains less than 0.5 factor value among 20 one was reduced under the name of "The lack of students' participation in teaching and their lack of activity" due to a factor value less than 0.5 and the remaining 19 components was placed among 6 main factors.

Table 13: Explained variance matrix by the factors before and after varimax rotation

Factor	Elements Extracted			Elements Extracted after Rotation		
	Total	Percent of the variance	Cumulative percentage	Total	Percent of the variance	Cumulative percentage
1	4.348	21.741	21.741	4.255	21.275	21.275
2	3.694	18.470	40.211	3.510	17.550	38.825
3	2.740	13.701	53.913	2.444	12.220	51.045
4	2.050	10.248	64.161	1.976	9.882	60.927
5	1.695	8.476	72.637	1.911	9.553	70.480
6	1.090	5.448	78.085	1.521	7.606	78.085

Table 14: Distribution of the loaded variables on factors

Variable Load on Each Factor	Factor					
	1	2	3	4	5	6
Absence or lack of appropriate educational tools	-0.084	0.225	0.786	0.414	-0.021	-0.107
Effects of students' self-esteem	0.248	0.121	0.443	-0.183	0.610	-0.305
Effects of students' motivation	-0.080	-0.233	-0.208	0.427	0.645	0.243
The lack of prior programs	0.575	-0.085	0.262	0.340	-0.369	-0.070
Use or lack of use of educational materials	0.032	0.088	0.572	0.483	-0.093	0.349
The lifeless and rigid teaching method	0.307	0.769	0.182	0.188	-0.136	0.055
The role of family	-0.245	0.312	0.412	-0.391	-0.206	0.533
Little attention to the needs of the learner	0.794	-0.132	-0.146	-0.337	-0.259	-0.038
Lack of scientific and applied mathematical education	0.900	-0.046	-0.035	-0.021	0.021	-0.148
Students basic mathematical weakness	0.185	-0.311	-0.360	0.568	0.399	0.240
Verbal (direct) behavior of teachers	-0.194	0.621	-0.364	0.453	-0.381	0.001
Teaching method	-0.013	0.724	-0.432	0.073	0.240	0.112
textbook Contents	0.537	0.487	-0.415	0.050	-0.096	0.039
Teachers' lack of familiarity with modern teaching methods	-0.280	0.819	-0.327	0.070	0.073	0.025
Covert and overt behaviors (nonverbal)of teachers	0.163	0.684	0.130	0.060	0.173	-0.338
Lack of participation of students in the teaching process and their lack of activity	0.344	-0.645	-0.203	0.447	-0.292	0.076
Inflexibility of syllabus against global developments in Mathematical Science	0.618	0.086	0.364	0.284	0.198	-0.161
Lack of attention to the needs of new courses	0.695	0.028	-0.508	-0.149	0.049	0.046
Lack of proper evaluation	0.553	0.161	0.240	-0.405	0.313	0.465
Methods of Teaching Mathematics	0.770	0.140	0.168	0.003	-0.050	0.227

As you can see in the above table the first factor has the largest components including 8component, the second has 5 components, third factor and fifth factors have two components and the fourth and sixth factors have the least 1 component.

Based on the distribution of loaded variables on the factors and the study of the constituent components of each factor the causes of anxiety were named as follows:

- The eight components constituting the first factor have been named as the education factor.

- The five components constituting the second factor have been named as the teacher factor.
- The two components constituting the third factor have been named as the educational assistance factor.
- The component constituting the fourth factor has been named as the previous course factor.
- The two components constituting the fifth factor have been named as the student factor. Components constituting the sixth factor have been named as the family factor.

Table 15: Naming the main factors

Factor Name	Variables Loaded	Load Factor
Education factor	The lack of previous programs	0.575
	Little attention to the needs of the learners	0.794
	Lack of scientific and applied mathematical education	0.900
	textbook Content	0.537
	Inflexibility of syllabus against global developments in Mathematical Science	0.618
	Lack of attention to the needs of new courses	0.695
	Lack of proper evaluation	0.553
	Methods of Teaching Mathematics	0.770
The teacher factor	The lifeless and rigid teaching method	0.769
	Verbal (direct) behavior of teachers	0.621
	Teaching method	0.724
	Teachers' lack of familiarity with modern teaching methods	0.819
	Covert and overt behaviors (nonverbal)of teachers	0.684
Educational assistance Factor	Absence or lack of appropriate educational tools	0.786
	Use or lack of use of educational materials	0.572
previous course factor	Students basic mathematical weakness	0.568
Student factor	Effects of students' self-esteem	0.610
	Effects of students' motivation	0.645
Family factor	The role of family	0.533

The information of the above table indicates that 8 variables including: The lack of previous programs, little attention to the needs of the learners, Lack of scientific and applied mathematical education, textbook Content, Inflexibility of syllabus against global developments in Mathematical Science, Lack of attention to the needs of new courses, Lack of proper evaluation, Methods of Teaching Mathematics have high positive loading on the first factor. This factor can be called the education factor because all these factors are related to the education. In other words the education factor is the main reason of causing anxiety in students. This factor alone estimates 21.275% of the variance.

Next we see that 5 variables including: The lifeless and rigid teaching method, Verbal (direct) behavior of teachers, teaching method, Teachers' lack of familiarity with modern teaching methods and Covert and overt behaviors (nonverbal)of teachers have high positive loading on the second factor . This factor can be called the teacher factor because all these factors are related to the teachers. In other words the teacher factor is the next main reason of causing anxiety in students. This factor alone estimates 17.55% of the variance.

Next we see that 2 variables including: Absence or lack of appropriate educational tools and Use or lack of use of educational materials have high positive loading on the third factor. This factor can be called the educational assistance factor because all these factors are related to the educational assistance. In other words the educational assistance factor is the next main reason of causing anxiety in students. This factor alone estimates 12.22% of the variance.

Then we see that one variable including: Students basic mathematical weakness has high positive loading on the fourth factor. This factor can be called the previous course factor because this factor is related to the previous course. In other words the previous course factor is the next main reason of causing anxiety in students. This factor alone estimates 9.882% of the variance.

Next we see that 2 variables including: Effects of students' self-esteem and Effects of students' motivation have high positive loading on the fifth factor. This factor can be called the student factor because all these factors are related to the student. In other words the student factor is the next main reason of causing anxiety in students. This factor alone estimates 9.553% of the variance.

Finally we see that one variable including: The role of family has high positive loading on the sixth factor. This factor can be called the family factor because this factor is related to the family. In other words the family factor is the next main reason of causing anxiety in students. This factor alone estimates 7.606% of the variance.

Question 2: What are the causes of anxiety in students according to the viewpoint of math teachers?

Table 16: One-sample t-test of the main factors

Factor	Mean	SD	t-test	Freedom	Sig	Difference
1	27.7333	5.09857	29.793	29	<0.001	27.7333
2	13.000	3.8685	18.406	29	<0.001	13.000
3	6.9000	1.3982	27.028	29	<0.001	6.9000
4	4.4667	0.5713	42.820	29	<0.001	4.4667
5	8.1333	1.0080	44.194	29	<0.001	8.1333
6	3.0333	0.8899	18.669	29	<0.001	3.0333

As it can be seen in the table above, the according to the math teachers all six factors influence students' mathematical anxiety.

As seen in the table-17, except the fourth factor there is no significant difference between the viewpoint of male and female teachers. Female math teachers consider the weakness of the students from the past course more highlighted than male teachers.

Question 3 – What are the difference in the viewpoint of the math teachers about the factors based on their gender?

Table 17: One-sample t-test OF major factors in male and female groups

Factor	Sex	Mean	SD	t-test	Freedom	Sig	Difference
1	F(13)	29.3846	5.8529	1.592	28	0.123	2.9140
	M(17)	26.4706	4.1850				
2	F(13)	12.2308	3.3703	-0.951	28	0.350	-1.3574
	M(17)	13.5882	4.2139				
3	F(13)	6.6923	1.4935	-0.705	28	0.486	-0.3665
	M(17)	7.0588	1.3449				
4	F(13)	4.6923	0.6304	1.985	28	0.057	0.3981
	M(17)	4.2941	0.4696				
5	F(13)	7.8462	0.9871	-1.386	28	0.177	-0.5067
	M(17)	8.3529	0.9963				
6	F(13)	2.9231	1.1875	-0.587	28	0.562	-0.1945
	M(17)	7.0588	1.3449				

Question 4. What are the differences in the viewpoint of the math teachers about the factors based on their experience?

Table 18: One-sample t-test of major factors in two groups of teaching experience

Factor	Experience	Mean	SD	t-test	Freedom	Sig	Difference
1	U 15(23)	28.6522	4.5388	1.864	28	0.073	3.9378
	O 15(7)	24.7143	6.0198				
2	U 15(23)	12.9565	3.8902	-0.110	28	0.913	-0.1863
	O 15(7)	13.1429	4.0999				
3	U 15(23)	6.8261	1.4350	-0.518	28	0.608	-0.3167
	O 15(7)	7.1429	1.3451				
4	U 15(23)	4.5217	0.5931	0.956	28	0.347	0.2360
	O 15(7)	4.2857	0.4879				
5	U 15(23)	8.3043	0.9739	1.743	28	0.092	0.7329
	O 15(7)	7.5714	0.9759				
6	U 15(23)	3.1739	0.8868	1.611	28	0.118	0.6024
	O 15(7)	2.5714	0.7868				

As seen in the table -18, none of the factors have significant difference between the male and female teachers.

Question 5. What are the differences in the viewpoint of the math teachers about the factors based on their education?

Table 19: One-sample t-test of major factors in two groups of education level

Factor	Education	Mean	SD	t-test	Freedom	Sig	Difference
1	U 15(5)	23.60	6.1481	-2.099	28	0.045	-4.96
	O 15(25)	28.56	4.5650				
2	U 15(5)	15.40	3.0459	1.556	28	0.131	2.88
	O 15(25)	12.52	3.8850				
3	U 15(5)	7.60	1.3416	1.237	28	0.226	0.84
	O 15(25)	6.76	1.3928				
4	U 15(5)	4.60	0.8944	0.565	28	0.577	0.16
	O 15(25)	4.44	0.5066				
5	U 15(5)	8.60	1.9493	1.140	28	0.264	0.56
	O 15(25)	8.04	0.7348				
6	U 15(5)	3.20	0.4472	0.452	28	0.654	0.20
	O 15(25)	3.00	0.9574				

As seen in the table -19, except the first factor there is no significant difference between the viewpoints of teachers. Math teachers with higher education consider the education factor more highlighted than teachers with lower education.

DISCUSSION AND CONCLUSION

Results showed that that 15% of students had low anxiety, 77.5% had moderate anxiety and 7.5% showed severe anxiety. This indicates that most students have moderate anxiety.

It seems that students are the most common group of people who are experiencing anxiety. All students are anxious, in the meantime, some of them are more anxious than others. Moderate anxiety is essential for growth and development but the abnormal anxiety impairs behavior. Stressful situations such as exams, interviews, difficulties related to work and school, can cause manifestation of anxiety; they have internal conflicts such as risky decisions that lead to a sense of guilt and the continuous failure in patients who cannot overcome it cause anxiety.

Single-sample t-test results showed that there is a difference between boys' and girls' anxiety levels. T value was equal to 3.293- and significance level of 0.001, which indicated a significant difference at 1% level. And we can say that the difference between the anxiety of boys and girls is at the 1% level.

In the literature of the research significant difference is reported about the anxiety of different genders and it is usually reported that the negative correlation between anxiety and educational performance of female students is more than male students. Women tend to underestimate their performance and men tend to overestimate their performance. It seems that the anxiety level is associated with perceptions of gender roles.

This result is in line with Aghajani et al. [17] who showed that mathematical anxieties correspond to female students was significantly higher than male student's anxiety. This result of Aminifar et al. [18] also found that mathematical anxiety of female students is different from the male students. But the results were not in line with Torabi et al. [19] in their study the difference between male and female anxiety was not significant.

Results showed that GPA was significantly and negatively with anxiety at 1% level. The higher the GPA, the lower the students' anxiety level is.

In explaining this finding it can be said that having a low GPA causes the students to underestimate themselves and not to trust their capabilities thus they experience anxiety. They think that they cannot solve the problems. They compare themselves with others and prefer other's capabilities in this comparison. On the other hand the anxious person does not consider the test content due to his anxiety which leads to lower performance. Previous unsuccessful experiences and situations and extending them to the current situation cause anxiety in students. Students sometimes think that in the past have failed to obtain the consent of their parents or teachers and feel a sense of guilt and resentment that leads to anxiety.

This result is consistent with Torabi et al. [19]. They also concluded that there is a correlation between mathematical anxiety and academic achievement. Yarmohammadi Wasel [20] showed that there is a negative and reverse relationship between mathematical anxiety and academic achievement. Mobasher [21] concluded that there is a reversed relationship between mathematical anxiety and academic achievement. Alamolhodaei [3] showed that irrational mathematical anxiety through cognitive barriers and thinking failure

besides making their thinking stop and Potential impairment of reasoning causes weakened self-esteem and prevents the learners' mathematical progress.

But it was inconsistent with Mousavi [22] who concluded that reduction in mathematical anxiety did not improve academic achievement.

Results showed that based on math teachers the education factor is the most important cause of anxiety in students. In other words education factors are the main cause of anxiety in students. This factor alone estimates 21.275% of the variance. And the factors of Lack of scientific and applied mathematical education, little attention to the needs of the learners and methods of teaching mathematics had the highest effect on the mathematical anxiety.

Educational system is an essential factor in the creation, development, and increasing anxiety. Overemphasis on memorization and the emphasis on speed of responding cause the student who acts somewhat slower than others feel inadequacy and weakness and fail in learning the problem. Lack of scientific and applied mathematical education can also lead to anxiety. For example, the teacher may put the students in real life situations to make them think and expect them to solve the problem.

Thus in order to understand the problem and make it easier tangible methods must be used. Obviously, if students understand the uses of mathematics in daily life and to apply it, they show more motivation in learning lesson.

This result is consistent with Lavassani et al. [23] who believed that the teaching methods are effective in mathematical anxiety. Abedi et al. [24] considered teaching methods as effective in mathematical anxiety as well. Keramati et al. [25] concluded that the teaching method and educational content are effective in educational progress and reducing mathematical anxiety.

Teachers' lack of familiarity with modern teaching method, the lifeless and rigid teaching method and teaching method are among the factors creating mathematical anxiety in students.

Some math teachers without considering the mental and psychological status and their talent and abilities offer problems to be solved that are beyond the students' capabilities. In these cases, the students feel inadequate and incompetent, and they become pessimistic about their talents and performance. In addition the relationship of the student and teacher must be in a way that they feel safe, the total environment of the classroom must provide peace of mind and create intimacy between the teacher and

students. The factor of fear and stress must not be devised to manage a class because it increases the feeling of insecurity and anxiety and leads to further problems when taking a test. This approach is the key factor in creating and increasing mathematical anxiety.

These results are consistent with Hosseini and Khayer [26] which suggest that teachers play an important role in creating positive and negative emotions and mathematical anxiety among the students. Radmehr [27] considered the lack of educating thinking methods and lack of creating thinking space in classroom by teachers as the reasons of increasing mathematical anxiety. Davoudi and Hassani [28] concluded that the management method of the teachers plays an important role in the appearance or reduction of the mathematical anxiety. Aminifar et al. [18] showed that there is a negative significant correlation between students' mathematical anxiety and teaching method.

According to the math teachers the third factor of mathematical anxiety is the educational assistance factor. This factor alone estimates 12.22% of the variance. Absence or lack of appropriate educational tools and Use or lacks of use of educational materials are the factors of causing anxiety among students.

According to the math teachers the fourth factor of mathematical anxiety is the previous course weakness factor. This factor alone estimates 9.882% of the variance. Low math scores, backgrounds and weakness in previous courses can lead to pessimism toward math and lead to mathematical anxiety.

Results showed that according to math teachers the fifth factor of mathematical anxiety is the student factor. According to them Effects of students' self-esteem and Effects of students' motivation can lead to mathematical anxiety. This factor alone estimates 9.553% of the variance.

No doubt that chronic hyper anxiety is counterproductive in school learning and mental development. Intrapersonal and interpersonal differences should always be considered; students' self-esteem is the value of a person in various fields of life, including family, education, social and physical. People with high self-esteem have the ability to deal adequately with the problems; they are not affected by environmental changes and believe in their abilities. In contrast people with lower self-esteem provide poor performance in social circumstances. When the students underestimate themselves, do not believe in their capabilities they experience anxiety. They think that they cannot solve the problems. They compare themselves with others and prefer other's capabilities in this comparison. They do not create motivation in themselves and find negative thinking. These students

are not self-directed; with the slightest changes lose their status and they cannot adapt the situations. Despite the individual differences among students all of them may not have the necessary inputs behaviors that must be resolved before proceeding with the education.

The results are in line with Ahmadi and Ahmadi [29] who have shown that mathematical anxiety correspond to students' personal characteristics.

According to the math teachers the last factor of mathematical anxiety is the family factor. This factor alone estimates 7.606% of the variance. In explaining this result, it can be said that the role of parents in the anxiety of children is more that school. Some parents who have been slow in mathematics transfer the same feeling to their children and others make their children afraid and anxious with pressures and expectations beyond the capabilities of their children. Aminifar et al. [18] showed that families play a vital role in creating anxiety in students.

The results showed that except the fourth factor there is no significant difference between the viewpoint of male and female teachers. Female math teachers consider the weakness of the students from the past course more highlighted than male teachers.

Results showed that there is no significant difference between male and female teachers regarding any of the factors.

Also the results showed that except the first factor there is no significant difference between the viewpoints of teachers. Math teachers with higher education consider the education factor more highlighted than teachers with lower education.

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