**Original Research**

# Effectiveness of Personality Types and Social Skills and Relationship with Behavioral-Emotional Interaction of Students

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**Abstract:**

**Background:**

The aim of this study was to investigate the effectiveness of personality types and social skills and relationships with behavioral-emotional interaction in middle school students.

**Method:**

The research method is solidarity. The sample consisted of 354 students (171 boys and 183 girls) in Shiraz who were selected by a random multi-stage cluster sampling method. Goldberg's personality questionnaire, Matson's social skills questionnaire, and student's behavioral-emotional interaction questionnaire were used to measure the research variables. Data were analyzed by calculating the Pearson correlation coefficient, simultaneous multiple regression analysis, and two-way variance analysis test.

**Result:**

The findings showed that only the dimension of agreeableness can positively predict appropriate social skills. Dimensions of emotional stability, controversy, and extraversion are also positive and significantly able to predict the relationship with peers. On the other hand, only the task-oriented variable was able to positively and significantly predict behavioral interaction and each dimension of emotional stability, conscientiousness, and agreeableness predicted emotional interaction positively and significantly.

**Conclusion:**

Task-oriented factors and agreeableness and emotional stability are related to discipline at work, effort and perseverance, interest in subject matter and attention and concentration, and all students' personality skills facilitate their emotional interaction.

**Keywords:** Personality Types, Social Skills, Behavioral-Emotional Interaction, Students

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**Introduction**

Personality is one of the various human characteristics that can help people to better understand themselves and others, that is, the aspect of human life that allows us to predict how one behaves in certain situations. In fact, personality represents those characteristics of individuals that form their constant pattern of behavior. According to Kilman and Thomas, personality type can predict organizational priorities for problem-solving and decision-making. Personality is the central core and the nearest variable in decision-makers (1). Social skills include behaviors that increase the likelihood of strengthening by those around them and lead to the proper functioning of children in society, one of the social tasks of children is learning skills in creating a mutual and successful relationship with peers. Social institutions and their performance are effective factors in how students socialize and how they assume their present and future roles, and these school institutions have a very important role in this regard. Therefore, acquiring social skills is one of the basic elements of human socialization in all cultures (2). Cooperation, sharing with others, helping, initiating relationships, asking for help, defining praise for others, and thanking and appreciating are examples of social skills (3). Learning social behaviors and establishing a successful relationship with others is one of the most important achievements of childhood. Unfortunately, not all children succeed in learning these skills. Children who have acquired sufficient social skills are more successful at establishing relationships with peers and learning in the educational environment than children who lack these skills. It should be noted that people with poor social skills are at various risks, such as depression, social anxiety, loneliness, and alcohol addiction. These defects may arise as a result of cultural differences, vague and contradictory expectations, delayed growth, lack of motivation, or lack of opportunity for proper display of skills (4). Research has shown that one of the most important issues in elementary and other levels is having social skills of students. Acceptable learned behaviors enable a person to have an effective relationship with others and refrain from unreasonable social reactions. Social skills training is a way to improve students' social skills. Social skills training is based on the principle that children's problems in social skills are often because children do not know what to do in social situations and children can be taught to overcome these problems (5). Nikbakht Kafshgari (2015) (6) conducted a study entitled "Study of the relationship between personality traits of social skills of parents with anxiety in children of Sama Ghaemshahr boys' primary school". Findings The results of the data show that there is a significant positive relationship between all variables. The results of regression analysis show that there is a relationship between anxiety and personality trait components of social skills. Yazdkhasti (2011) (7) conducted a study entitled "Study of the relationship between social skills and personality traits of normal students with stuttering in primary schools in Isfahan and a comparison of these two variables in the two groups." According to the obtained data, it can be concluded that due to the difference in the practical ability to use the language between the two normal and stuttering groups and as a result of a negative assessment of their abilities in the stuttering group, this group of self-esteem they have lower than normal group. On the other hand, in a group with stuttering, controlling emotions arising from high social opportunities can lead to independence, self-esteem, and self-efficacy, and vice versa. In the group of normal students, a negative perception of society, which can have different origins, predicts ineffective interpersonal relationships. Social skills are those skills through which individuals

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can engage in interpersonal interactions and the communication process; it is a process in which people share their information, thoughts, and feelings through a verbal and non-verbal exchange (5). Social skills are learned adaptive behaviors that enable a person to interact with different people, express positive reactions and avoid behaviors that have negative consequences (8). Coping strategies are cognitive and behavioral efforts that people use in stressful situations to cope with their issues and problems and play a key role in determining their physical and mental health. Effective coping strategies reduce the individual's response to high levels of stress and moderate its detrimental effects (9). Each person's personality is the main dimension and psychological structure, which helps shape his or her lifestyle. In recent decades, some people investigated personality by designing traits for personality and using complex statistical methods such as factor analysis (10). An overview of personality definitions shows that not all personality meanings can be found in a particular theory, but in fact, the definition of personality depends on the type of theory of each scientist. In another concept, personality is defined based on a clear and dominant trait, without mentioning other aspects of his existence as well as environmental influences. Personality has been considered a valid indicator of individual performance and behavior. Personality also controls an individual's variable senses of the environment and other environmental factors around the individual. Personality is a pattern of relatively permanent traits and unique characteristics that stabilize and individualize a person's behavior (11).

1- Is there a relationship between personality types, social skills, and behavioral-emotional interaction of middle school students?

2. Can personality types predict the social skills of middle school students?

3- Can personality types predict the behavioral-emotional interaction of middle school students?

**Research Methodology**

The basis of this study is based on the relationship between variables, so research is a kind of correlation. The statistical population in this study is all male and female students in the first to third grades of guidance in Shiraz in the academic year 2020-2021. The sample consisted of 354 students including 171 male students (48.3%) and 183 female students (51.7%). In order to select the subjects, random multi-stage cluster sampling was used. In this way, first, from the list of guidance schools in shiraz, 2 girls' schools and 2 boys' schools were randomly selected, and then from each school, one class from the first grade, one class from the second grade, and one class from the third grade were randomly selected and all of their students were tested. To analyze the data in this study, using SPSS statistical software (version 17), for investigative question 1, the Pearson correlation coefficient and simultaneous regression method were used to investigate questions 2 and 3.

**Results**

Table 1 shows the mean and standard deviation of girls 'and boys' scores in the studied variables.

**Research questions**

Here, research findings are presented based on research questions.

**The first research question**

Is there a relationship between personality skills, social skills, and behavioral-emotional interaction of middle school students?

Pearson correlation method was used to answer research question 1 and the results of which are presented in Table 2. As the table shows, personality skills including agreeableness,

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conscientiousness, emotional stability and openness in experience with behavioral and emotional interaction have shown positive and significant relationships. However, extroversion dimension was not related to the dimensions of behavioral and emotional interaction and therefore, regression was excluded in subsequent calculations. Also, the dimensions of openness in experience, conscientiousness, agreeableness and extraversion except emotional stability have shown a positive and significant relationship with the appropriate social skill variable, so the dimension of emotional stability in the next calculation of regression was excluded from the appropriate social skill variable. On the other hand, dimensions of emotional stability, task-oriented, agreeableness and extraversion had a significant relationship with the dimension of relationship with peers, while openness dimension inexperience had no significant correlation with the peer relationship variable, which was excluded from the next calculation of regression with the relationship variable with peers.

**The second question of the research**

Can personality types predict the social skills of middle school students? To answer this question, a multiple regression statistical method was used simultaneously, in which personality types as predictive variables and appropriate social skills and relationships with peers as the criterion variable (separately table 3 and table 4 entered into the equation. The results of Table 3 show that the amount of F-tests to investigate the effect of personality skills on appropriate social skills is 46.86. It was significant at the level of P<0.0001. The amount of R2 indicates that 34% of the variance of appropriate social skills is explained by personality skills.

A glance at regression coefficients shows that the agreeable dimension (β=0.55) is positively able to predict appropriate social skills. Dimensions of openness in experience, conscientiousness, and extroversion were not able to predict appropriate social skills.

The results of a meaningful prediction of appropriate social skills through personality types are also shown in Figure 2.

**The results of Table 4 show that the value of the F test to investigate the effect of personality types**

On peer relationships is 30.58, which is significant at the level of P <0.0001. A value of R2 indicates that 26% of the variance in peer relationships is explained by personality types. The results showed that the dimensions of emotional stability (β = 0.34), task orientation (β = 0.12) and extraversion (β = 0.21) can positively and significantly predict the relationship with peers. . But then the agreement could not predict the relationship with peers.

The results of a significant prediction of the relationship with peers through personality types are shown in Figure 3.

Third question: Can personality types predict the interaction of emotional behavior of middle school students?

To answer this question, the statistical method of multiple regression was used simultaneously, the results of which were presented in tables -5 and -6. Based on Table 5 and considering the significance of the F test (P>0.0001 and F=21.32) and R2 value, it can be said that personality traits explained 19% of the variance of behavioral interaction. In this regard, only the task-oriented variable (β=0.31) was positively and significantly able to predict behavioral interaction. In other words, dimensions of emotional stability, openness in experience, and agreeableness were not able to predict behavioral interaction.

The results of meaningful prediction of behavioral interaction through personality types are shown in Figure 4. As mentioned

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earlier, only the task-oriented dimension was able to predict behavioral interaction.

The same analysis was also carried out to investigate the relationship between personality type and emotional interaction using the multiple regression statistical method 6- The results showed that the amount of F-tests to investigate the effect of personality types on emotional interaction was 32.35 which was significant at the level of P<0.0001. R2 shows that 27% of the variance of emotional interaction is explained by personality manifestations. A glance at regression coefficients indicates that each dimension of emotional stability (0.19(β), conscientiousness (0.31(β= and agreeableness (0.15) (β=) can predict emotional interaction positively and significantly. (-0.01) (β was unable to predict the significant emotional interaction.

The results of meaningful prediction of emotional interaction through personality skills are shown in Figure 5.

The fourth question of the research to examine the fourth question of the research on whether there is a difference between male and female students in the three levels of education in terms of social skills? A two-way analysis of variance and2x3 design was used.

Table 7- presents the mean and standard deviation of the scores of male and female students in the appropriate social skills subscale by educational level and in Table 8- the results of intergroup effects for the appropriate social skills subscale are presented.

The results of Table 8 show that there is no significant difference between male and female students in the appropriate social skills subscale (F=0.24). There was no significant difference in different educational levels (F=1.48). Also, the relationship between gender and educational level was not significant (F=0.09).

In table 9- the Mean and standard deviation of scores of male and female students by the educational base in this subscale and in table 10- the results of intergroup effects for the subscale of relationship with peers are presented.

The results of Table 10 show that there is a significant difference between male and female students in the peer relationship subscale (P=0.008 and P=7.22) so that the mean scores of boys in this subscale are higher than the average of girls (Table 10) in different educational levels, there was no significant difference between the scores of both sexes in the subscale of relationship with peers. Also, the effect of gender interaction and educational base on this subscale was not significant.

**The fifth question of the research**

To examine the fifth question of his research on whether there is a difference between male and female students in the three levels of education in terms of behavioral-emotional interaction? A two-way analysis of variance was used and the2x3 design was used. Provided.

The results of Table 12 show that there is a significant difference between male and female students in the behavioral interaction component (P=0.04 and F=4.10) and this difference is in favor of boys (Table 12). The difference was significant at different educational levels (P=0.01 and F=4.69). Subsequently, the results of Scheffe's follow-up test (Table 13) indicated that the performance of first-grade guidance students was better than the performance of second and third-grade guidance students in the component of behavioral interaction.

Also, the effect of interaction between gender and educational level on behavioral interaction was significant (P = 0.004 and F = 5.54). Figure 4-5 shows this well.

Table 14 presents the mean and standard deviation of the scores of male and female students by educational level and Table 15 presents the results of intergroup effects for the emotional interaction component.

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The results of Table 15 show that there is no significant difference between male and female students in the component of emotional interaction. There was no significant difference between the scores of the subjects in the component of emotional interaction at different educational levels. Also, the interaction between gender and educational level was not significant.

**Discussion**

In order to review and conclude the findings of the research questions, first, the questions presented in the first chapter are raised, and then the results are expressed. The relationship between personality types, social skills, and behavioral-emotional interaction of students

According to the findings of correlation coefficients, personality types including emotional stability, openness in experience, conscientiousness, and agreeableness with behavioral and emotional interaction have shown positive and significant relationships. This finding is in line with the findings of researchers that have generally spoken about the relationship between personality skills and behavioral and emotional interaction of students and consider personality as one of the determinants of behavioral and emotional interaction. Among these researches are researches (Chhetri et al, 2022) (9), (Jahi et al., 2021) (3). According to these studies, some of the dimensions of five large personality factors lead to the proper performance of students, high concentration when working, less absence, and more positive behaviors in the classroom, which makes students do their academic homework better. Dimensions of emotional stability, conscientiousness, agreeableness, and extraversion had a significant relationship with the relationship with peers, while openness in the experience had no significant relationship with the peer relationship variable. In justifying this, it can be said that a person who is open to experience has a great interest, loves anything new, and is a nontraditional and unconventional person, which can be less successful in attracting peers.

**Prediction of social skills through dimensions of personality types**

The results indicated that only the agreeable dimension can positively predict appropriate social types. This finding is generally identified by some researchers (Yazdanshenas et al., 2017) (11) and (Jafari, Shafiee, 2017) (5). Which has shown that people with high levels of agreement are always willing to help others and believe that others will help them in return. They are kind, polite, altruistic, and benevolent, and are adaptable and flexible in the face of life events, as well as the cooperation, trust, and interpersonal support that are appropriate social skills factors. They would like to. Emotional stability or lack of psychosis is one of the greatest predictors of happiness, and people with emotional stability have characteristics such as calmness, relief, and avoidance of complaining about personal worries or anxieties. It is useful to communicate with peers.

**Predicting behavioral-emotional interaction through personality types**

The results showed that only the task orientation dimension was a positive and significant predictor of behavioral interaction, but the dimensions of emotional stability, openness to experience, an agreement could not predict behavioral interaction. This finding is consistent with the findings of the research (Bijari et al., 2015) (10) (Aksoy, 2021) (12) which showed that there is a significant relationship between the factor of task orientation and class behavior and the factor of task orientation with discipline at work, effort and Perseverance, interest in the subject, and attention to focus on the study are consistent and reflect the individual's active involvement in assignments or activities.

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**Differences in gender performance in the three levels of education in social skills**

The results of intergroup effects for the appropriate social skills subscale showed that the findings are in line with research findings (Saroyan, 2021) (13), which reported no difference between the two sexes in different educational levels in appropriate social skills scores. However, the present study is inconsistent with studies that have spoken about the superiority of girls in the appropriate social skills compared to boys (5), it seems that the samples studied in the present study, unlike These cases, which included high school students, including middle school students, could be one of the reasons for the discrepancy between appropriate social skills and gender.

**Difference between sexes' performance in three educational levels in behavioral-emotional factor**

The results showed that there was a significant difference between male and female students and also between different educational grades in the behavioral interaction component, which was in the interest of boys and also indicated that the performance of first-grade students was better than the performance of second and third-grade guidance students in the component of behavioral interaction. In addition, the interaction between gender and educational level was also significant. Regarding the behavioral and emotional interaction of boys compared to girls in this study, it can be said that these findings are in line with the findings of the research (Azarbarzin et al., 2015)(1), (Aksoy, 2021) (12) , (Soleimani et al , 2017) (14) that suggest that boys are more involved in activities than girls.

In the component of emotional interaction, the results showed that there was no significant difference between the mean scores of emotional interaction between girls and boys at different educational levels.

**Conclusion**

It can be said that in the present study, having enthusiasm, pleasure, and interest in classroom activities and peers and teachers, which is one of the criteria for emotional interaction among girls and boys and different educational foundations, may be said that this type of interaction is related to other effective factors such as sense of belonging to the school, familiarity with the school, relationship with the school, bond and attachment with school and class, which are also related to these terms. In turn, it is influenced by parents' and peers' attitudes toward school and classroom activities and there is no difference between girls and boys and their different educational bases.

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**Tables & Figures**

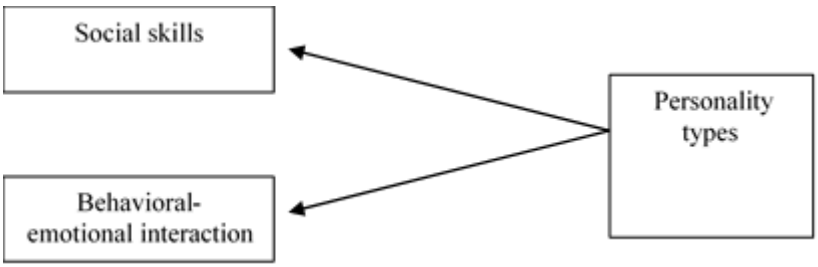


**Figure 1. Conceptual diagram of the relationships between the variables under study**

**Table 1. Mean and standard deviation of girls 'and boys' scores in the studied variables**

| Variables | girls n=183 | | Boys n=171 | | Total n=354 | |
|---|---|---|---|---|---|---|
| | Average | Standard deviation | Average | Standard deviation | Average | Standard deviation |
| 1-Emotional stability | 26/77 | 7/40 | 30/93 | 8/70 | 28/78 | 8/31 |
| 2-Openness in experience | 36/56 | 5/77 | 37/17 | 6/34 | 36/85 | 6/05 |
| 3- Orbital duty | 35/15 | 5/96 | 36/40 | 7/56 | 35/75 | 6/80 |
| 4- Compatibility | 40/88 | 6/07 | 39/88 | 7/28 | 40/40 | 6/69 |
| 5- Extraversion | 29/84 | 5/34 | 30/57 | 5/69 | 30/20 | 5/52 |
| 6-Appropriate social skills | 72/02 | 9/52 | 72/13 | 8/74 | 72/07 | 9/14 |
| 7-Relationship with peers | 32/92 | 5/64 | 34/57 | 6/00 | 33/72 | 5/86 |
| 8-Behavioral interaction | 29/65 | 4/85 | 30/77 | 5/14 | 30/19 | 5/02 |
| 9-Emotional interaction | 48/74 | 9/69 | 49/97 | 9/74 | 49/33 | 9/72 |

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**Table 2. Correlation matrix of research variables (N = 354)**

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| **1. Extraversion** | 1 | | | | | | | | |
| **2. Consensus** | 0/17* | 1 | | | | | | | |
| **3. Duty** | 0/057 | 0/52* | 1 | | | | | | |
| **4. Emotional stability** | 0/16* | 0/26* | 0/39* | 1 | | | | | |
| **5.Openness in experience** | 0/25* | 0/46* | 0/47* | 0/21* | 1 | | | | |
| **6. Appropriate social skills** | 0/10** | 0/58* | 0/34* | 0/06 | 0/31* | 1 | | | |
| **7. Relationship with peers** | 0/29* | 0/22* | 0/29* | 0/44* | 0/07 | 0/27* | 1 | | |
| **8.Behavioral interaction** | -0/008 | 0/31* | 0/42* | 0/23* | 0/26* | 0/26* | 0/24* | 1 | |
| **9.Emotional interaction** | 0/08 | 0/36* | 0/46* | 0/36* | 0/25* | 0/31* | 0/31* | 0/64* | 1 |

*** P=0/05**

**** P=0/01**

**Table 3. Results of multiple regression analysis to predict appropriate social skills through personality skills in the whole sample**

| Predictive variables | F | P | R | $R^2$ | β | t | P |
|---|---|---|---|---|---|---|---|
| **Openness in experience** | 46/81 | 0/0001 | 0/59 | 0/34 | 0/04 | 0/83 | N.S. |
| **Task-oriented** | | | | | 0/03 | 0/58 | N.S. |
| **Agreeable** | | | | | 0/55 | 10/3 | 0/0001 |
| **Extroversion** | | | | | 0/003 | 0/06 | N.S. |

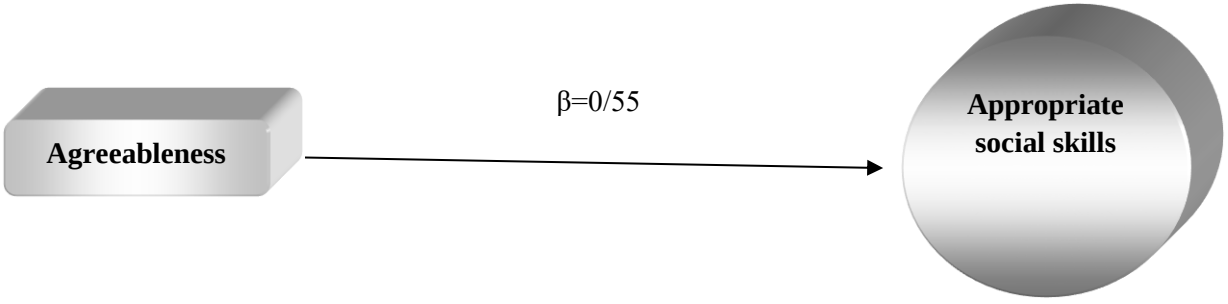


**Figure 2. Multiple regression results to predict appropriate social skills through personality types**

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**Table 4. Results of multiple regression analysis in order to predict the relationship with peers through personality types in the whole sample**

| Predictive variables | F | P | R | $R^2$ | β | t | P |
|---|---|---|---|---|---|---|---|
| **Emotional stability** | 30/58 | 0/0001 | 0/50 | 0/26 | 0/34 | 6/85 | 0/0001 |
| **Duty** | | | | | 0/12 | 2/15 | 0/03 |
| **Consent** | | | | | 0/03 | 0/62 | N.S. |
| **Extraversion** | | | | | 0/21 | 4/62 | 0/0001 |

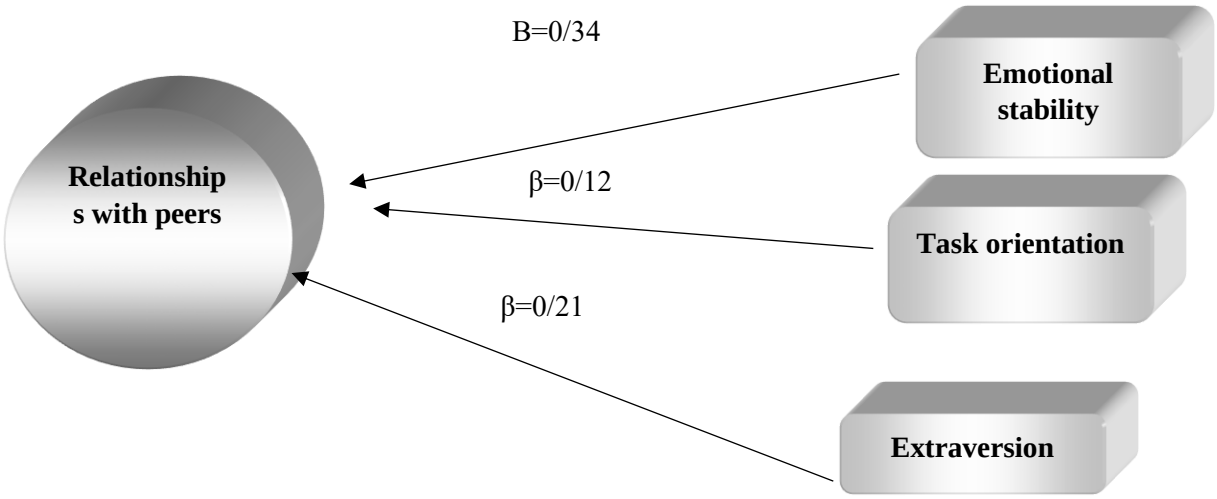


**Figure 3. Multiple regression results in order to predict relationships with peers through personality types**

**Table 5. Results of multiple regression analysis to predict behavioral interaction through personality types in the whole sample**

| Predictive variables | F | P | R | $R^2$ | β | T | P |
|---|---|---|---|---|---|---|---|
| **Emotional stability** | 21/32 | 0/0001 | 0/44 | 0/19 | 0/07 | 1/34 | N.S. |
| **Openness in experience** | | | | | 0/04 | 0/77 | N.S. |
| **Task orientation** | | | | | 0/31 | 5/09 | 0/0001 |
| **Agreeableness** | | | | | 0/11 | 1/88 | N.S. |

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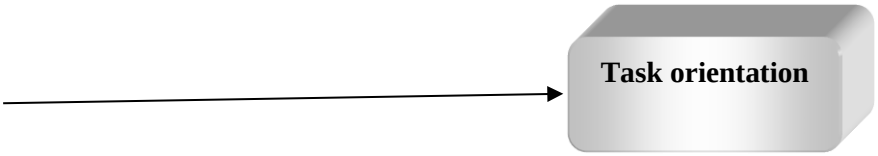


**Figure 4. Multiple regression results to predict behavioral interaction through personality types**

**Table 6. Results of multiple regression analysis to predict emotional interaction through personality types in the whole sample**

| **Predictive variables** | F | P | R | $R^2$ | β | t | P |
|---|---|---|---|---|---|---|---|
| **Emotional stability** | 32/25 | 0/0001 | 0/52 | 0/27 | 0/19 | 3/98 | 0/0001 |
| **Openness in experience** | | | | | -0/01 | 0/18 | N.S. |
| **Task orientation** | | | | | 0/31 | 5/24 | 0/0001 |
| **Consent** | | | | | 0/15 | 2/78 | 0/006 |

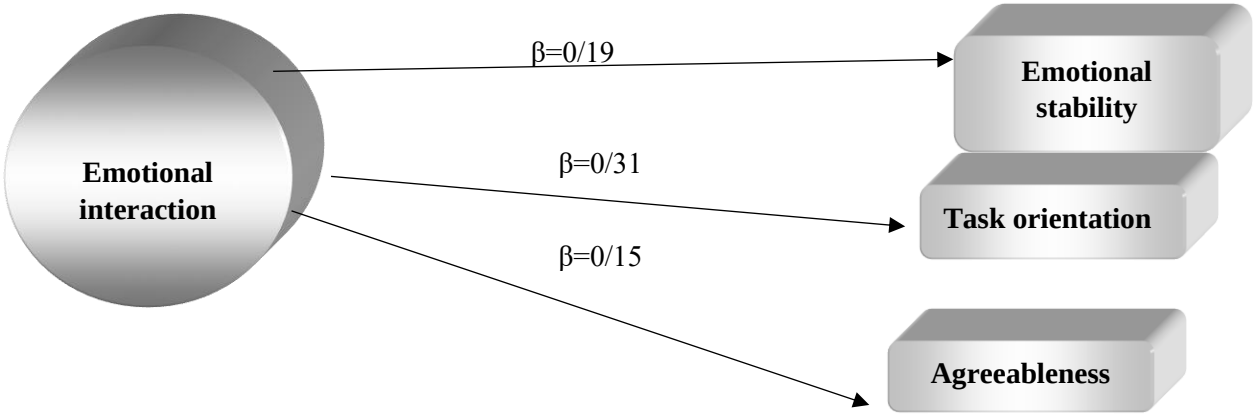


**Figure 5. Multiple regression results to predict emotional interaction through personality types**

**Table 7. Mean and standard deviation of scores of male and female students in three educational levels in the appropriate social skills subscale.**

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| Gender | Grade | Average | Standard deviation | Number |
|---|---|---|---|---|
| Boy | first grade of middle school | 72/84 | 9/38 | 65 |
| | Second–grade middle school | 70/81 | 8/79 | 58 |
| | Third-grade middle school | 72/77 | 7/72 | 48 |
| | Total | 72/13 | 8/74 | 171 |
| Girl | first grade of middle school | 72/10 | 10/77 | 56 |
| | Second–grade middle school | 70/96 | 8/01 | 60 |
| | Third-grade middle school | 72/02 | 9/70 | 47 |
| | Total | 72/02 | 9/52 | 183 |
| Total | first grade of middle school | 72/50 | 10/01 | 121 |
| | Second–grade middle school | 70/88 | 8/37 | 118 |
| | Third-grade middle school | 72/84 | 8/89 | 115 |
| | Total | 72/07 | 9/14 | 354 |

**Table 8: Results of intergroup effects for the appropriate social skills subscale**

| Source of variance | SS | Df | MS | F | P |
|---|---|---|---|---|---|
| **Gender** | 2/03 | 1 | 2/03 | 0/24 | N.S. |
| **Educational level** | 249/64 | 2 | 124/82 | 1/48 | N.S. |
| **Gender*Educational Level** | 15/30 | 2 | 7/65 | 0/09 | N.S. |

**Table 9. Mean and standard deviation of scores of male and female students in three grades in the subscale of peer relationship**

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| Gender | Grade | Average | Standard deviation | Number |
|---|---|---|---|---|
| Boy | first grade of middle school | 34/29 | 6/22 | 65 |
| | Second–grade middle school | 34/39 | 6/20 | 58 |
| | Third-grade middle school | 35/16 | 5/50 | 48 |
| | Total | 34/57 | 6/00 | 171 |
| Girl | first grade of middle school | 32/73 | 5/32 | 56 |
| | Second–grade middle school | 33/76 | 5/36 | 60 |
| | Third-grade middle school | 32/32 | 6/12 | 67 |
| | Total | 32/92 | 5/64 | 183 |
| Total | first grade of middle school | 33/57 | 5/85 | 121 |
| | Second–grade middle school | 34/07 | 5/77 | 118 |
| | Third-grade middle school | 33/51 | 6/01 | 115 |
| | Total | 33/72 | 5/86 | 354 |

**Table 10. Results of intergroup effects for the peer relationship subscale**

| **Source of variance** | SS | df | MS | F | P |
|---|---|---|---|---|---|
| **Gender** | 245/69 | 1 | 248/69 | 7/22 | 0/008 |
| **Educational level** | 19/47 | 2 | 9/73 | 0/28 | N.S. |
| **Gender*Educational Level** | 70/41 | 2 | 35/21 | 1/03 | N.S. |

**Table 11. Mean and standard deviation of scores of male and female students in three grades in the behavioral interaction component**

| **Gender** | **Grade** | **Average** | **Standard** | **number** |
|---|---|---|---|---|

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| | | | deviation | |
|---|---|---|---|---|
| Boy | first grade of middle school | 31/55 | 4/66 | 65 |
| | Second–grade middle school | 29/12 | 4/66 | 58 |
| | Third-grade middle school | 31/72 | 4/86 | 48 |
| | Total | 30/77 | 4/85 | 171 |
| Girl | first grade of middle school | 31/14 | 5/09 | 56 |
| | Second–grade middle school | 29/81 | 5/25 | 60 |
| | Third-grade middle school | 28/26 | 4/66 | 67 |
| | Total | 29/65 | 5/14 | 183 |
| Total | first grade of middle school | 31/36 | 4/88 | 121 |
| | Second–grade middle school | 29/47 | 4/95 | 118 |
| | Third-grade middle school | 29/71 | 5/06 | 115 |
| | Total | 30/19 | 5/02 | 354 |

**Table 12. Results of intergroup effects for the behavioral interaction component**

| Source of variance | SS | df | MS | F | P |
|---|---|---|---|---|---|
| **Gender** | 97/98 | 1 | 97/98 | 4/10 | 0/04 |
| **Educational level** | 223/82 | 2 | 111/91 | 4/69 | 0/01 |
| **Gender*Educational Level** | 264/55 | 2 | 132/27 | 5/54 | 0/004 |

**Table 13. Results of Scheffe post hoc test related to students' performance in different educational levels in the behavioral interaction component.**

| Variables | Grade | difference in averages | The standard deviation | P |
|---|---|---|---|---|
| Behavioral interaction | Second<br>First | *1/88 | 0/63 | 0/01 |
| | Third | *1/65 | 0/63 | 0/03 |
| | First<br>Second | *-1/88 | 0/63 | 0/01 |
| | Third | 0/23 | 0/63 | N.S. |
| | First<br>Third | *-1/65 | 0/63 | 0/03 |
| | Second | 0/23 | 0/63 | N.S. |

* P=0/05

**Table 14: Mean and standard deviation of scores of male and female students in three grades in the component of emotional interaction**

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| Gender | Grade | Average | Standard deviation | number |
|---|---|---|---|---|
| Boy | first grade of middle school | 51/13 | 9/13 | 65 |
| | Second–grade middle school | 48/08 | 10/11 | 58 |
| | Third-grade middle school | 50/66 | 9/94 | 48 |
| | Total | 49/97 | 9/74 | 171 |
| Girl | first grade of middle school | 48/83 | 10/33 | 56 |
| | Second–grade middle school | 50/06 | 10/06 | 60 |
| | Third-grade middle school | 47/47 | 8/73 | 67 |
| | Total | 48/74 | 9/69 | 183 |
| Total | first grade of middle school | 50/07 | 9/75 | 121 |
| | Second–grade middle school | 49/09 | 10/09 | 118 |
| | Third-grade middle school | 48/80 | 9/35 | 115 |
| | Total | 49/33 | 9/72 | 354 |

**Table 15: Results of intergroup effects for the emotional interaction component**

| Source of variance | SS | Df | MS | F | P |
|---|---|---|---|---|---|
| **Gender** | 119/56 | 1 | 119/56 | 1/27 | N.S. |
| **Educational level** | 66/05 | 2 | 33/02 | 0/35 | N.S. |
| **Gender*Educational Level** | 445/00 | 2 | 222/50 | 2/36 | N.S. |

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