# *Inteligencia emocional, género y clima familiar en adolescentes peruanos*

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Resumen

El objetivo del presente estudio fue analizar la relación entre la inteligencia emocional y el clima familiar. Se realizó un estudio transversal-correlacional en el que participaron 127 adolescentes del distrito de San Juan de Lurigancho, en Lima, Perú, donde se obtuvo información sobre su edad, género y estructura familiar. Las mediciones del clima familiar (CF) e inteligencia emocional (IE) se hicieron a través de una versión adaptada de la escala del clima social familiar (FES) y una escala de inteligencia emocional. Se utilizó la prueba estadística t de Student para la comparación de las puntuaciones de inteligencia emocional según el género y la estructura familiar, y la r de Pearson para el análisis de correlaciones entre el clima familiar y la inteligencia emocional. Como resultado, se encontraron diferencias de género en empatía ($t = 3.445$; $p < .01$) y habilidades sociales ($t = 2.711$; $p < .01$) –donde las mujeres presentaron puntuaciones más altas que los hombres–, pero no en la puntuación total de la inteligencia emocional. También, se encontraron diferencias significativas en la autorregulación ($t = 2.319$; $p < .05$) y automotivación ($t = 2.713$; $p < .01$) de los adolescentes de familias nucleares y monoparentales; y se observó una correlación directa entre el clima familiar y la inteligencia emocional ($r = .632$; $p < .01$).
*Palabras clave:* familia, estructura familiar, clima familiar, inteligencia emocional, adolescentes.

# *Emotional intelligence, gender and family environment in Peruvian adolescents*

Abstract

The objective of this study was to analyze the relationship of emotional intelligence and family environment. A cross-sectional and correlational study was executed, involved 127 adolescents in San Juan de Lurigancho District, Lima - Peru. Data obtained were on age, sex, and family structure. Measurements of family environment (FE) and emotional intelligence (EI) were made through an adapted version of the Family Environment Scale (FES) and a EI scale, respectively. Student's t test was used for the comparison of emotional intelligence scores by gender and family structure and Pearson's r for the correlation analysis between family environment and emotional intelligence. The analysis revealed gender differences in empathy ($t = 3.445$, $p < .01$) and social skills ($t = 2.711$, $p < .01$), where women presented higher scores than men. There were no gender differences in the total score of EI. There were also significant differences in self-regulation ($t = 2.319$; $p < .05$) and self-motivation ($t = 2.713$; $p < .01$) in adolescents from nuclear and non-nuclear families. Finally, a direct correlation between family environment and emotional intelligence was found ($r = .632$, $p < .01$).
*Key words*: gender, family, family structure, family environment, emotional intelligence, adolescents.

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# *Inteligência emocional, gênero e clima familiar em adolescentes peruanos*

Resumo

O objetivo do presente estudo foi analisar a relação entre a inteligência emocional e o clima familiar. Realizou-se um estudo transversal-correlacional no qual participaram 127 adolescentes do distrito de San Juan de Lurigancho, em Lina, no Peru, onde obteve-se informação sobre sua idade, gênero e estrutura familiar. As medições do clima familiar (CF) e inteligência emocional (IE) foram feitas através de uma versão adaptada da escala do clima social familiar (FES) e uma escala de inteligência emocional. Utilizou-se o teste estatístico t de Student para a comparação das pontuações de inteligência emocional segundo o gênero e a estrutura familiar, e a r de Pearson para a análise de correlações entre o clima familiar e a inteligência emocional. Como resultado, foram encontradas diferenças de gênero em empatia ($t = 3.445$; $p < .01$) e habilidades sociais ($t = 2.711$; $p < .01$), onde as mulheres apresentaram pontuações mais altas do que os homens, mas não na pontuação total da inteligência emocional. Também, foram encontradas diferenças significativas na autorregulação ($t = 2.319$; $p < .05$) e automotivação ($t = 2.713$; $p < .01$) dos adolescentes de famílias nucleares e monoparentais e observou-se uma correlação direta entre o clima familiar e a inteligência emocional ($r = .632$; $p < .01$).
*Palavras-chave*: adolescentes, clima familiar, estrutura familiar, família, inteligência emocional.

## INTRODUCTION

Emotional intelligence (EI) continues to receive considerable attention from researchers in the fields of psychology (AlDosiry, Alkhadher, AlAqraa' & Anderson, 2015). Initial investigations consisted of examining the EI construct through the development of theoretical models, creating assessment tools (Mayer, Caruso, & Salovey, 1999), and recently, empirical research studies have been performed focused on the verification of the effects that emotional intelligence may have on individuals (Sánchez, León & Barragán, 2015) and the development of emotional skills (Herpertz, Schütz & and Nezlek, 2016).

According to Mayer and Salovey (1997), EI is defined as "the ability to perceive, assimilate, understand, and regulate emotions in the self and others, promoting emotional and intellectual growth" (p.10). Unlike Intelligence Quotient, which is considered relatively stable, EI skills may be improved through learning and practice (Goleman, 2011), and its development would contribute to individuals' success in various fields of activity.

Authors such as Bar-On (1997), Gottman (1997), Cooper and Sawaf (1998), Shapiro (2010) and Goleman (2011) have proposed various approaches to describe the EI concept and designed measurement instruments based on their own ideas of its components. Although there is a disagreement about the concepts and emotional skills that an emotionally intelligent individual must have, there is also a consensus that these have an influence on different aspects of life (Pacheco & Fernández, 2004), which are recently being contrasted in an empirical way.

The literature review shows studies that analyzed EI related to age, gender, and culture (McNulty, Mackay, Lewis, Lane & White, 2015), social support (Azpiazu, Esnaola & Sarasa, 2015), sales performance (AlDosiry et al., 2015), quality of life and career goals achievement (Macías, Gutierrez, Carmona & Crespillo, 2015), as well as self-efficacy and entrepreneurial intentions (Mortan, Ripoll, Carvalho & Bernal, 2014). Likewise, most studies conducted in educational settings have aimed at the analysis of relationships between EI and other constructs such as academic performance (Aritzeta et al., 2016), general intelligence and psychological well-being (Sánchez et al., 2015), as well as emotional awareness and maladjustment (Ordóñez, Maganto & Gonzalez, 2015). It is evident that in these studies the EI concept is considered as a variable that influences other variables; however, there is little research that analyzes the influence of other variables on EI. For this reason, this study aims to analyze the relationship between EI and variables such as gender, family structure and family environment (FE).

### *Emotional Intelligence*

From the theoretical perspective of cognitive assessment, emotions are the result of personal stimuli that have a specific goal. They are intense and relatively short-lived and involve physiological responses and behavioral tendencies (Bagozzi, Gopinath & Nyer, 1999; Johnson & Stewart, 2005)

Fernández and Extremera (2013) state that academic intelligence is not enough to achieve professional success, nor does it guarantee success in everyday life or contribute to emotional balance and mental health. Instead, EI includes internal emotions that are important for personal growth and emotional adjustment. The concept of EI has gained importance due to its implications in the upbringing and education of children and, subsequently, it has extended to workplaces focusing on human relationships. Thus, it is assumed that the same capabilities of emotional control that cause a child to be appreciated and considered enthusiastic by others will also help them when interacting at work and in marriage (Shapiro & Tiscornia, 1997).

Gardner's (2006) theory of multiple intelligences defines intrapersonal intelligence as a set of abilities to understand, control and regulate one's own emotions; and interpersonal intelligence as the capacity to understand other people's emotions. Goleman (2011) states that EI is a set of emotional skills that can be developed and identifies five components: self-awareness, self-regulation, self-motivation, empathy, and social skills. Although all of these skills are part of EI, personal and interpersonal aspects are quite independent and do not necessarily have to be linked (Fernández & Extremera, 2013).

Some studies have shown that self-awareness is related to high rates of behavior based on competence and to lower scores on dependence and aggressive behavior scales (Aimaganbetova et al., 2016.); self-regulation is negatively associated to emotional and behavioral problems in children (Eisenberg, Spinrad & Eggum, 2010); negative emotions lead to self-control failure (Chester et al., 2016) and empathy is negatively associated with bullying behavior (Mitsopoulou & Giovazolias, 2015).

*Gender and emotional intelligence*

For decades, researchers have emphasized the study of gender from a biological perspective; however, in the last twenty-five years, efforts have been made to understand gender as a cultural phenomenon (Conway, Bourque & Scott, 2013). Parsons and Bales (1956) believed that gender roles have a biological basis and that the processes of modernization of social structures had managed to justify the establishment of these roles and, therefore, social systems are functional when they are based on complementarity and mutual support between men and women. Variations in functions corresponding to gender are considered as deviations that result in the disappearance of such social systems. In response to the biological conception of gender, Med´s (1935) theoretical proposals that served as a basis for the understanding of gender based on cultural aspects and a greater understanding of the complex functionality of social systems resurfaced. In other words, gender roles present a historical and cultural variation and are understood as cultural representations established by society about appropriate behavior for men and women in which the interaction of diverse economic, social, political and religious institutions fulfills a mediating function (Conway et al., 2013).

Currently, the need for gender studies is in the forefront and continues to gain importance because the role of women in society is not only a subject present in political debates, but also full of social and economic implications, thus raising intellectual problems among academics. It is clear that the understanding of gender and its implications in other aspects of society can be approached from either of the two perspectives, which can be considered complementary rather than exclusive. A biological conception of gender limits its study to concrete and reductionist elements, whereas a cultural conception requires the inclusion of other elements linked to its context, making it more complex.

Even though there is no consensus as to the origin of gender similarities and differences in terms of emotions and behaviors (Eagly, Beall & Sternberg, 2004), there are studies that have demonstrated gender differences in aspects such as empathy and other concepts. Riglin et al., (2016) indicate that gender differences regarding intelligence are not clearly demonstrated but there are indicators that mental health in women is less affected than in men. For their part, Egger and Angold (2006) affirm that girls have a lower risk of behavioral problems than boys. Others argue that women are more emotionally expressive than men, more empathetic and perceptive because their understanding and recognition of others' emotions is greater and they have greater ability in certain interpersonal skills (Argyle, 1990; Lafferty, 2004). However, there is a controversy regarding gender differences in EI, and depending on the type of assessment tool used, such differences may or may not be found (Sánchez, Fernández, Montanes & Latorre, 2008).

*Family environment, family structure and emotional intelligence*

The family is considered to be the basic unit of society and as such, it is the fundamental and essential agent of socialization (Lekaviciene & Antiniene, 2016; Povedano, Hendry, Ramos & Varela, 2011). As an object of study, over the last few decades it has regained the interest of researchers due to the substantive and progressive changes of family behavior that encompass multiple processes, extending from the family constitution to their different ways of life (Paredes, 2003). Currently, there are varieties

of family models that have altered the parameters of understanding of family life (Valdivia, 2008) and apparently there is neither a standard nor a model of the contemporary family (Jadue, 2003).

A review of the theory suggests a correlation between some family aspects and the development of emotions in individuals during childhood. In a positive sense, Lekaviciene and Antiniene (2016) point out that the family plays an important role in the development of personality. According to Gottman (2001), parents are the coaches of their children's emotions and they contribute to the understanding and recognition of negative effects, the development of the child's sense of control and optimism or in the effective regulation of emotions. In a negative sense, Davies and Cummings (1994) believe that family conflicts foster a lack of emotional control in children. Jadue (2003) considers that marital conflicts and family dysfunction can be predictors of their children's emotional maladjustment. Similarly, Bradley and Corwyn (2002) argue that adverse situations within the family can predict the emotional and behavioral problems of children.

In this sense, family problems are a risk factor for those who interact within the family and, especially, for children. However, it should be clarified that although there are children exposed to this risk factor, there are also some children who escape their effects (Flouri, Midouhas & Joshi, 2015).

*Family structure and emotions*

The perspective of the processes of social change, especially regarding industrialization and urbanization, includes the transformations of the family institution. These processes have had an effect on its functions and have opened the possibility of analyzing the family from the prospect of family structures (Paredes, 2003).

The traditional nuclear family model has been losing strength because large proportions of the population have had difficulty in adapting to the expected behavior patterns (Furstenberg, 2003). Concepts such as marriage, divorce and single parenthood acquire new meanings because their contents are different (Paredes, 2003). Although the family composed of both parents continues to be the most frequent family model in Latin America, an increase in single-parent families has also been observed (Olhaberry & Farkas, 2012).

Currently, society assumes that the interaction of family members and the presence of the parents are related to the development of children's emotions. There are those who argue that youngsters who live with both parents have greater overall satisfaction and higher self-esteem (Montoya & Landero, 2013). Others hold that the presence of parental authority in the family makes children maintain certain basic elements for social and emotional growth and, at the same time, provide opportunities for children to develop outside the family (Shapiro & Tiscornia, 1997) or that parenthood, viewed in terms of warmth, especially from the mother, is positively associated with EI, constituting one of the most effective factors in its development (Asghari & Besharat, 2011). Furthermore, others have noted that children are adversely affected by divorce (Amato & Keith, 1991) and that children who live with only one parent are more likely to experience anxiety or show symptoms of emotional stress (Jadue, 2003).

## METHOD

*Study design and participants*

This study used a quantitative approach with a descriptive-correlational design. Intentional sampling was used and the voluntary participants were 127 adolescents from an educational association from the San Juan de Lurigancho District of Lima, Peru. The average age was 14.2 (± 1.49). Additionally, 52.0% of the participants were women and 48.0% men. 73.2% come from nuclear families and 26.8% from single-parent families (see Table 1).

Table 1
*Sociodemographic characteristics of the adolescents who participated in the study*

| Variables | | n | % |
|---|---|---|---|
| Age | < 13 years old | 51 | 40.2 |
| | 13 - 15 years old | 53 | 41.7 |
| | > 15 years old | 23 | 18.1 |
| Gender | Female | 66 | 52.0 |
| | Male | 61 | 48.0 |
| Grade in school | 1st year of high school | 28 | 22.0 |
| | 2nd year of high school | 26 | 20.5 |
| | 3rd year of high school | 24 | 18.9 |
| | 4th year of high school | 29 | 22.8 |
| | 5th year of high school | 20 | 15.7 |
| Family structure | Nuclear | 93 | 73.2 |
| | Single-parent | 34 | 26.8 |

Total = 127 adolescents

*Instruments*

In order to measure FE, a reduction and adaptation of the Family Social Environment Scale by Moos and Trickett (1987) was carried out. This is a validated instrument which originally consisted of 90 items with dichotomous answer options (true-false) which measures: (1) *relationships*, which refer to the degree of communication; (2) *freedom*

and possibility of expression at home; (3) *development*, denoting personal fulfillment of each family member; and (4) *stability*, which assesses organization and respect for the established rules within the family. The instrument was reduced to 60 items with a Likert-style answer options (1 = never, 2 = sometimes, 3 = almost always, 4 = always). Additionally, reliability analysis was done through Cronbach's alpha coefficient (Cronbach, 1951) and following the recommendations by Domínguez-Lara (2016),the confidence intervals (CI) for the data of this study were calculated, corroborating that the 60-item scale presents an adequate internal consistency among the totality of its items (α = .898; IC 95% .858, .927) and among the total of the dimensions such as: relationships (α = .815; IC 95% .747, .866), development (α = .800, IC 95% .727, .855) and stability (α = .788, IC 95% .711, .846). Similar results were reported in other studies (AlDosiry et al., 2015; Extremera & Fernández, 2004).

EI was assessed through a scale proposed and validated by Chiriboga and Franco (2001). The instrument consists of 60 items with Likert-style answer options (1 = never, 2 = sometimes, 3 = almost always, 4 = always) and assesses the five components proposed by Goleman (2012): *self-awareness*, which measures the ability to know oneself, especially the emotions and adequate interpretation of reality that surrounds a person; *self-regulation*, coherent acts with convictions and personal experiences, and knowing how to adapt to different contexts, innovating without losing personal integrity; *self-motivation*, the ability to motivate oneself, define objectives, goals, and commitment to achieving them, being aware of the time and effort it may take to reach them; *empathy*, the ability to recognize others' emotions, adapt to different people without losing personal identity or emotional control; and *social skills*, control of social relationships as a set of skills that facilitate and allow for adaptation to the group, team collaboration, conflict resolution, and effective communication. In the sample evaluated in this study, reliability analysis for the total EI scale revealed a reliability coefficient showing adequate internal consistency among its elements (α = .860, IC 95% .807, .899).

*Procedure*

In order to collect the data, authorization was secured from the school administration and from the teachers of each classroom. Each adolescent received a copy of the printed instruments and a pen, and then the guidelines were given on the content, purpose and way of responding to the items of the instruments. The estimated time to answer the questions was 25 minutes.

*Ethical considerations*

The parents were asked to sign informed consent documents so that the adolescents and their parents would be aware of the purposes of the study and thus, agree to participate voluntarily under the conditions of respect for their privacy and confidentiality of their information, as well as for the required presentation of the individual and collective results, so that the institutional board could make decisions or take actions, based on evidence, that favor the emotional and family well-being of the adolescents. Adolescents who expressed insecurities and fear of providing information about their family did not participate in the study so as to avoid negative emotional effects caused by some remembrances.

*Statistical analysis*

Before performing the statistical analysis for gender differences and family structure in terms of EI and their respective factors, the data were analyzed for normality through the Shapiro Wilk test. Although the sensitivity of all statistical normality tests depend on the size of the sample, the evidence obtained by simulation studies show that Shapiro Wilk has a better performance in most situations (Yap & Sim, 2011).

The results of the normality analysis indicate that EI and its respective components in the gender categories have a normal distribution ($p > .05$). Similar results were obtained in terms of the family structure categories ($p > .05$), except for the family structure categories of nuclear and single-parent type where the data for self-regulation and social skills, respectively, are not distributed in a normal manner (p. <.05).

Based on this normality analysis, the decision was made to conduct further statistical analysis using Student's *t*-test to analyze the mean difference of the EI components between adolescent women and men and between adolescents from nuclear and single-parent families. In addition, the power of the test was calculated so as to avoid making a type I error, using Cohen´s *d* (1992) which is a way to measure the magnitude of the relevant effect for a comparative procedure (Dominguez-Lara, 2017). The values range from: insignificant (< .20), small (.20); medium (.50) and large (.80).

The correlation analysis between the EI and FE components was conducted through the Pearson's *r* statistical test, establishing a significance level of .05 (5%).The *r* value was, in turn, evaluated as a magnitude of the effect itself (Cohen, 1988), based on the following ranges: insignificant (< .10), small (.10); medium (.30), and large (.50). The statistical analyzes were conducted using the SPSS 22.0

Table 2
*Normality analysis of emotional intelligence according to gender and family structure*

| Variables | Gender | | | | Family structure | | | |
|---|---|---|---|---|---|---|---|---|
| | Category | W | df | Sig. | Category | W | df | Sig. |
| Self-awareness | Female | .986 | 66 | .673 | Nuclear | .980 | 93 | .167 |
| | Male | .977 | 61 | .306 | Single-parent | .962 | 34 | .283 |
| Self-regulation | Female | .964 | 66 | .055 | Nuclear | .969 | 93 | .028 |
| | Male | .981 | 61 | .448 | Single-parent | .941 | 34 | .064 |
| Self-motivation | Female | .967 | 66 | .075 | Nuclear | .974 | 93 | .065 |
| | Male | .975 | 61 | .238 | Single-parent | .957 | 34 | .197 |
| Empathy | Female | .984 | 66 | .540 | Nuclear | .986 | 93 | .399 |
| | Male | .970 | 61 | .144 | Single-parent | .947 | 34 | .097 |
| Social skills | Female | .970 | 66 | .108 | | .986 | 93 | .443 |
| | Male | .994 | 61 | .993 | | .925 | 34 | .022 |
| Emotional intelligence | Female | .977 | 66 | .262 | | .991 | 93 | .816 |
| | Male | .984 | 61 | .591 | | .971 | 34 | .503 |

*Note*: W = Shapiro-Wilk Test.

software package. In addition, *r* values were compared between men and women through the *q* statistic (Cohen, 1992; Dominguez, Moscoso, Merino, & Navarro, 2016) and the magnitude of the effect was assessed with the criteria and ranges used in the previous analysis.

## RESULTS

In this section, results will be presented for the comparison of means according to gender and the Cohen coefficient followed by the analysis of correlation between emotional intelligence and family environment.

The contrast analysis of means confirmed that there are significant differences in empathy scores *(t* = 3.445; *p* < .01) and social skills (*t* = 2.711; *p* < .01) in women compared to men. These results show that women have higher levels of empathy than men (*d* = .62); furthermore, the levels of social skills in women were higher than those of their male peers (*d* = .49). On the other hand, no statistically significant differences (*p* > .05) were found in the total EI score nor in the interpersonal components such as self-awareness, self-regulation and self-motivation, although the magnitude of the effect of self-awareness is not negligible (*d* = .34) and for EI it is within the limit (*d* = .20) (Table 3).

Regarding the contrast of means in EI between adolescents coming from nuclear and single-parent families, significant differences were found in the scores of *self-regulation* (*t* = 2.319, p < .05) and *self-motivation (t* = 2.713, p <.01), so those coming from nuclear families showed *self-regulation* scores ($\overline{x}$ = 2.78; ± .31) which were higher than those from single-parent families ($\overline{x}$ = 2.63; ± .32). Likewise, *self-motivation* scores in adolescents from nuclear families ($\overline{x}$ = 3.13; ± .41) were higher compared to those from single-parent families ($\overline{x}$ = 2.90; ± .46). However, there were no significant differences (*p* > .05) in EI and the components of *self-awareness*, *empathy*, and *social skills* (Table 4).

Table 3
*Emotional intelligence between adolescent men and women*

| | Female (n = 66) | | Male (n = 61) | | *t* Test for the difference between means | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | CI (95 %) | | | | |
| | Mean | SD | Mean | SD | Difference | Lower | Upper | *t* | *p* | *d* |
| Self-awareness | 2.80 | .37 | 2.92 | .34 | –.120 | –.247 | .006 | –1.887 | .062 | .34 |
| Self-regulation | 2.74 | .36 | 2.74 | .27 | .001 | –.110 | .113 | .025 | .980 | .00 |
| Self-motivation | 3.06 | .43 | 3.07 | .44 | –.007 | –.160 | .145 | –.095 | .924 | .02 |
| Empathy | 3.20 | .34 | 2.97 | .40 | .229 | .097 | .360 | 3.445 | .001 | .62 |
| Social skills | 3.24 | .44 | 3.03 | .41 | .205 | .055 | .354 | 2.711 | .008 | .49 |
| EI | 3.01 | .30 | 2.95 | .29 | .061 | –.043 | .165 | 1.167 | .245 | .20 |

*Note*: *SD*: Standard deviation; *d* = Cohen's *d*.

Table 4
*Emotional intelligence between adolescents from nuclear and single-parent families*

| | Nuclear (n = 93) | | Single-parent (n = 34) | | *t* Test for the difference between means | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | CI (95 %) | | | | | |
| | Mean | *SD* | Mean | *SD* | Difference | Lower | Upper | *t* | *p* | *d* |
| Self-awareness | 2.89 | .36 | 2.80 | .36 | .090 | –.054 | .233 | 1.234 | .219 | .25 |
| Self-regulation | 2.78 | .31 | 2.63 | .32 | .144 | .021 | .268 | 2.319 | .022 | .48 |
| Self-motivation | 3.13 | .41 | 2.90 | .46 | .229 | .062 | .396 | 2.713 | .008 | .54 |
| Empathy | 3.07 | .39 | 3.15 | .39 | –.073 | –.228 | .082 | –.930 | .354 | .21 |
| Social skills | 3.14 | .44 | 3.12 | .43 | .021 | –.152 | .194 | .241 | .810 | .05 |
| EI | 3.00 | .30 | 2.92 | .30 | .082 | –.035 | .199 | 1.385 | .168 | .27 |

*Note: SD*: Standard deviation; *d* = Cohen's *d*

In Table 5, the statistical analysis through Pearson's *r* coefficient shows a direct correlation with statistical significance between FE and EI ($r = .632$; $p < .01$). In the analysis of relationships between the FE and EI components, direct relationships were found with statistical significance ($p < .01$). Regarding the rating of *r* values based on magnitude of effect, all of the correlations showed magnitudes that allow for the theoretically interpretation of the results (> .20).

Regarding the comparison of correlations of EI and FE between men and women, it can be observed that there are no differences in many of the correlations analyzed, which indicates that the family climate has a similar relationship with EI regardless of the person's gender (Table 5). However, there are three differences to be taken into account ($q > .20$) in the correlations of self-awareness and development, self-regulation and relationship, and social skills. The statistical method that evaluates the magnitude of the effect indicates that in one group the correlations between the analyzed variables are stronger than in the other.

## DISCUSSION

The purpose of the study was to analyze the relationship between emotional intelligence, gender, family structure and family environment in adolescents from San Juan de Lurigancho, Lima, Peru. The results show that there are gender differences in levels of empathy, indicating that women present higher levels than men. These results coincide with the study by González and Valdez (2013) who found that women have significantly higher levels of empathy than men. In this regard, Batson, Fultz, and Schoenrade (1987) hold that social stereotypes attribute to women a higher emotional sensitivity, tendency to attend and support the weak, greater ability to detect feelings and nonverbal signs, and greater concern for others. In addition, research has found that empathy is a characteristic which is more often attributed to women compared to men (González & Valdez, 2013).

The results of this study provide evidence for gender difference in social skills, showing that women present significantly higher scores than men. While gender differences

Table 5
*Correlations between FE and EI components*

| | Relation | Development | Stability | Family environment |
|---|---|---|---|---|
| Self-awareness | .602** | .450** | .396** | .576** |
| Self-regulation | .453** | .360** | .263** | .435** |
| Self-motivation | .603** | .465** | .440** | .597** |
| Empathy | .343** | .379** | .310** | .416** |
| Social skills | .347** | .356** | .248** | .388** |
| Emotional intelligence | .612** | .527** | .436** | .632** |

*Note:* *: $p < .05$; **: $p < .01$.

Table 6
*Comparison of the correlations between FE and EI between men and women*

| | | Relation | Development | Stability | Family environment |
|---|---|---|---|---|---|
| Self-awareness | Men | .500** | .305* | .284* | .444** |
| | Women | .681** | .562** | .457** | .672** |
| | *q* | .130 | .214 | .151 | .169 |
| Self-regulation | Men | .286* | .397** | .212 | .385** |
| | Women | .553** | .340** | .290* | .462** |
| | *q* | .224 | .050 | .073 | .065 |
| Self-motivation | Men | .548** | .360** | .420** | .529** |
| | Women | .652** | .548** | .464** | .655** |
| | *q* | .074 | .154 | .036 | .090 |
| Empathy | Men | .271* | .381** | .298* | .392** |
| | Women | .469** | .415** | .407** | .503** |
| | *q* | .173 | .030 | .096 | .091 |
| Social skills | Men | .329** | .380** | .477** | .464** |
| | Women | .392** | .353** | .154 | .371** |
| | *q* | .056 | .024 | .291 | .078 |
| Emotional Intelligence | Men | .511** | .473** | .456** | .583** |
| | Women | .701** | .569** | .449** | .680** |
| | *q* | .134 | .074 | .006 | .067 |

*Note:* *: $p < .05$; **: $p < .01$.

in social skills have been studied by DiPrete and Jennings (2012), attributing the advantages to women compared to men, Downey and Vogt Yuan (2005) further state that these differences are linked to age, in the sense that female adolescent students have better social skills at older ages than men.

Concerning self-awareness of emotions, no gender differences were found. Similar results were found by Lahav, Maeir, and Weintraub (2014) who show that there are no gender differences in relation to students' self-awareness about their performance. Likewise, no gender differences were found in self-control of emotions. However, studies by McKinley et al. (2014) show that men present higher scores than women in control of emotions. Discrepancies in these studies and the inaccuracy of various research studies that show gender differences, which describe women as being more emotional than men (Else, Higgins, Allison, & Morton, 2012) show the need for further study on gender differences regarding control of emotions. Similarly, no gender differences regarding adolescents' self-motivation were found. A literature review by Meece, Glienke and Burg (2006) shows the existence of gender differences in capability to concentrate, on learning science, goal orientation and learning, and furthermore the lack of gender difference regarding goal orientation among American and European students, which taken together do not reveal a clear pattern of gender differences in goal achievement orientation among students.

Regarding the relationship between family structure and emotional intelligence, it was found that adolescents who came from nuclear families presented higher scores in self-control and self-motivation than those who come from single-parent families. On the topic of self-control of emotions, Perez et al., (2009) state that family structure plays a fundamental role in the functionality of the family revealing that nuclear families are more prepared to face changes occurring to their members. According to Santander et al. (2008), adolescents who perceive dysfunctionality in their families are more vulnerable to get involved in risk behaviors which reflect the loss of emotional control. Meece et al., (2006) contend that the family supplies a basic function in the formation of competence beliefs and interests, because socialization and experiences manifested in the family influence gender differences in motivation, which are found in the early years of children's development.

In the correlation analysis, a strong, direct and significant relationship was found between family environment and emotional intelligence. Students who showed high scores in family environment also showed high scores in emotional intelligence. Similarly, high and direct correlations were found between the dimensions of family environment and the variable dimensions of emotional intelligence. Although

no studies on the influence of family environment on emotional intelligence were found, there are studies which show the influence of family related variables on control of adolescents' emotions. For instance, the study by Ramsden and Hubbard (2002) shows that negative family expressiveness and acceptance of the mother's negative emotions is indirectly related to aggressive behavior through children's emotional self-control. Likewise, Davies and Cummings (1994) found that children's emotional control is based on experiences of marital conflict.

Regarding the limitations of this study, the sample size used (< 200) is notably modest for a correlational study. However, despite this, both the calculated reliability coefficients (including CI with a lower limit above .70) as well as the correlations found among the dimensions studied, suggest that this number of participants did not systematically affect the findings. Nevertheless, the study should be replicated with a larger sample in order to consolidate the results.

Another aspect that contributed to the robustness of the results is the use of measures of magnitude of the effect which allowed for a better understanding of the associations between variables (both in the comparative and correlational analysis) beyond the sample size. As it is known, this affects the *p* value (which leads to the retention or rejection of the statistical null hypothesis) and could arrive at conclusions that would inappropriately reflect the real results (Dominguez-Lara, 2016

Similarly, the development of future research studies that could analyze the moderating effect of gender and family structure in the relationship of FE and EI would be beneficial. It would also be important to undertake studies with longitudinal designs that allow analyzing the differences in EI and FE among adolescents who come from a particular family group. Despite the limitations, it is considered that the results obtained contribute to a better understanding of the relationship between the variables found in this group of people who experience a number of situations in which emotions could be affected.

In summary, studies reveal that EI provides competences to cope with situations of stress and social relationships. The skills that allow a person to discern between different emotional states, understanding and controlling them properly are essential for the individual's social development and constitute factors which protect mental and physical health. Nevertheless, further analysis of emotions is required, because levels which are too high or too low may lead to difficulties in people's social relationships (Salguero & Iruarrizaga, 2006).

## REFERENCES


Aimaganbetova, O., Tolegenova, A., Nurysheva, G., Syrgakbaeva, A., Mussikhina, E., Dzhumagalieva, I., & Aimaganbetov, A. (2016). The Impact of "Self-knowledge" Subject on Social-psychological Characteristics of Pupils' Identity. *Procedia - Social and Behavioral Sciences*, *217*, 771–778. https://doi.org/10.1016/j.sbspro.2016.02.143

AlDosiry, K. S., Alkhadher, O. H., AlAqraa', E. M., & Anderson, N. (2015). Relationships between emotional intelligence and sales performance in Kuwait. *Revista de Psicología del Trabajo y de las Organizaciones*, *32*(1), 39–45. https://doi.org/10.1016/j.rpto.2015.09.002

Amato, P. R., & Keith, B. (1991). Parental divorce and the well-being of children: a meta-analysis. *Psychological Bulletin*, *110*(1), 26–46.

Argyle, M. (1990). *The psychology of interpersonal behaviour*. Harmondsworth, UK: Penguin.

Aritzeta, A., Balluerka, N., Gorostiaga, A., Alonso-Arbiol, I., Haranburu, M., & Gartzia, L. (2016). Classroom emotional intelligence and its relationship with school performance. *European Journal of Education and Psychology*, *9*(1), 1–8. https://doi.org/10.1016/j.ejeps.2015.11.001

Asghari, M. S., & Besharat, M. A. (2011). The relation of perceived parenting with emotional intelligence. *Procedia - Social and Behavioral Sciences*, *30*, 231–235. https://doi.org/10.1016/j.sbspro.2011.10.046

Azpiazu, L., Esnaola, I., & Sarasa, M. (2015). Capacidad predictiva del apoyo social en la inteligencia emocional de adolescentes. *European Journal of Education and Psychology*, *8*(1), 23–29. https://doi.org/10.1016/j.ejeps.2015.10.003

Bagozzi, R. P., Gopinath, M., & Nyer, P. U. (1999). The Role of Emotions in Marketing. *Journal of the Academy of Marketing Science*, *27*(2), 184–206. https://doi.org/10.1177/0092070399272005

Bar-On, R. (1997). *EQ-I Bar-On Emotional Quotient Inventory: A Measure of Emotional Intelligence*. Multi-Health Systems.

Batson, C. D., Fultz, J., & Schoenrade, P. A. (1987). Las reacciones emocionales de los adultos ante el malestar ajeno. In N. Eisenberg & J. Strayer (Eds.), *La empatía y su desarrollo* (pp. 181–204). Bilbao: Desclée de Brouwer.

Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annual Review of Psychology*, *53*, 371–99. https://doi.org/10.1146/annurev.psych.53.100901.135233

Chester, D. S., Lynam, D. R., Milich, R., Powell, D. K., Andersen, A. H., & De Wall, C. N. (2016). How do negative e motions impair self-control? A neural model of negative urgency. *NeuroImage*, *132*, 43–50. https://doi.org/10.1016/j.neuroimage.2016.02.024

Chiriboga, R., & Franco, J. (2001). Validación de un test de inteligencia emocional en niños de diez años de edad. *Médico de Familia*, 1–7.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). New York: Lawrence Erlbaum Associates.

Cohen, J. (1992). A power primer. *Psychological Bulletin*, *112*(1), 155–9. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/19565683

Conway, J., Bourque, S., & Scott, J. (2013). El concepto de género. In M. Lamas (Ed.), *El género: la construcción cultural de la diferencia sexual* (pp. 21–33). México: Grupo Editorial Miguel Ángel Porrúa.

Cooper, R. K., & Sawaf, A. (1998). *Executive EQ: Emotional Intelligence in Leadership and Organizations*. New York: Penguin.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, *16*(3), 297–334. https://doi.org/10.1007/BF02310555

Davies, P. T., & Cummings, E. M. (1994). Marital conflict and child adjustment: an emotional security hypothesis. *Psychological Bulletin*, *116*(3), 387–411.

DiPrete, T. A., & Jennings, J. L. (2012). Social and behavioral skills and the gender gap in early educational achievement. *Social Science Research*, *41*(1), 1–15. https://doi.org/10.1016/j.ssresearch.2011.09.001

Domínguez-Lara, S. (2016). Diferencias entre grupos y magnitud del efecto: un análisis complementario. *Archivos Argentinos de Pediatría*, *114*(4), e300–e301.

Domínguez-Lara, S. (2017). Magnitud del efecto, una guía rápida. *Educación Médica*, *En prensa*, 1–4. https://doi.org/10.1016/j.edumed.2017.07.002

Domínguez-Lara, S. (2016). Anales del sistema sanitario de Navarra. *Anales Del Sistema Sanitario de Navarra*, *39*(1), 169–170. Retrieved from http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1137-66272016000100024

Domínguez, S., Moscoso, M. S., Merino, C., & Navarro, J. S. (2016). Un método para la comparación de correlaciones basado en intervalos de confianza: aportes a Tejedor et al. *Revista de Psiquiatría y Salud Mental*, *9*(4), 228–229. https://doi.org/10.1016/j.rpsm.2015.12.001

Downey, D. B., & Vogt, A. S. (2005). Sex Differences In School Performance During High School: Puzzling Patterns and Possible Explanations. *The Sociological Quarterly*, *46*(2), 299–321. https://doi.org/10.1111/j.1533-8525.2005.00014.x

Eagly, A. H., Beall, A. E., & Sternberg, R. J. (2004). *The psychology of gender* (2nd ed.). London: Guilford Press.

Egger, H. L., & Angold, A. (2006). Common emotional and behavioral disorders in preschool children: presentation, nosology, and epidemiology. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, *47*(3–4), 313–37. https://doi.org/10.1111/j.1469-7610.2006.01618.x

Eisenberg, N., Spinrad, T. L., & Eggum, N. D. (2010). Emotion-related self-regulation and its relation to children's maladjustment. *Annual Review of Clinical Psychology*, *6*, 495–525. https://doi.org/10.1146/annurev.clinpsy.121208.131208

Else, N., Higgins, A., Allison, C., & Morton, L. C. (2012). Gender differences in self-conscious emotional experience: a meta-analysis. *Psychological Bulletin*, *138*(5), 947–81. https://doi.org/10.1037/a0027930

Extremera, N., & Fernández, P. (2004). El papel de la inteligencia emocional en el alumnado: evidencias empíricas. *Revista Electrónica de Investigación Educativa*. Retrieved from http://redie.uabc.mx/redie/article/view/105/1121

Fernández, P., & Extremera, N. (2013). La Inteligencia emocional como una habilidad esencial en la escuela. *Revista Iberoamericana de educación*, *29*(1), 1–6.

Flouri, E., Midouhas, E., & Joshi, H. (2015). Family and neighbourhood risk and children's problem behaviour: The moderating role of intelligence. *Intelligence*, *53*, 33–42. https://doi.org/10.1016/j.intell.2015.08.003

Furstenberg, F. (2003). El cambio familiar estadounidense en el último tercio del siglo XX. En *Nuevas formas de familia: perspectivas nacionales e internacionales* (pp. 11–35). Montevideo: Fondo de las Naciones Unidas para la Infancia (UNICEF).

Gardner, H. (2006). *Multiple Intelligences: New Horizons*. New York: Basic Books.

Goleman, D. (2011). *Working With Emotional Intelligence*. New York: Bantam Books.

Goleman, D. (2012). *Inteligencia emocional*. Barcelona: Editorial Kairós.

González, N., & Valdez, J. (2013). Resiliencia: Diferencias por edad en hombres y mujeres mexicanos. *Acta de Investigación Psicológica*, *3*(1), 941–955.

Gottman, J. (1997). *The Heart of Parenting: How to Raise an Emotionally Intelligent Child*. New York: Bloomsbury.

Gottman, J. (2001). Meta-Emotion, Children's Emotional Intelligence, and Buffering Children from Marital Conflict. In C. D. Ryff & B. Singer (Eds.), *Emotion, social relationships, and health. Series in affective science* (pp. 23–55). New York: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780195145410.001.0001

Herpertz, S., Schütz, A., & Nezlek, J. (2016). Enhancing emotion perception, a fundamental component of emotional intelligence: Using multiple-group SEM to evaluate a training program. *Personality and Individual Differences*, *95*, 11–19. https://doi.org/10.1016/j.paid.2016.02.015

Jadue, G. (2003). Transformaciones familiares en Chile: Riesgo creciente para el desarrollo emocional, psicosocial y la educación de los hijos. *Estudios Pedagógicos*, (29), 115–126. https://doi.org/10.4067/S0718-07052003000100008

Johnson, A. R., & Stewart, D. W. (2005). A Reappraisal of the Role of Emotion in Consumer Behavior. In *Review of*

*Marketing Research* (Vol. 1, pp. 3–34). Emerald Group Publishing Limited. https://doi.org/10.1108/S1548-6435(2004)0000001005

Lafferty, J. (2004). The relationship between gender, empathy, and aggressive behaviors among early adolescents. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, *64*(12), 6377B.

Lahav, O., Maeir, A., & Weintraub, N. (2014). Gender differences in students' self-awareness of their handwriting performance, *British Journal of Occupational Therapy, 77 (12),614-618.* https//doi.org/://doi.org/10.4276/030802214X14176260335309

Lekaviciene, R., & Antiniene, D. (2016). High Emotional Intelligence: Family Psychosocial Factors. *Procedia - Social and Behavioral Sciences*, *217*, 609–617. https://doi.org/10.1016/j.sbspro.2016.02.066

Macías, A. J., Gutiérrez, C., Carmona, F. J., & Crespillo, D. (2015). Relationship between perceived emotional intelligence and professional quality of life with the achievement of occupational objectives in the Costa del Sol primary health care district. *Atencion Primaria*, *48*(5), 301–307. https://doi.org/10.1016/j.aprim.2015.06.007

Mayer, J., Caruso, D., & Salovey, P. (1999). Emotional intelligence meets traditional standards for an intelligence. *Intelligence*, *27*(4), 267–298. https://doi.org/10.1016/S0160-2896(99)00016-1

Mayer, J. D., & Salovey, P. (1997). What is emotional intelligence? In *Emotional Development and Emotional Intelligence: Educational Implications* (pp. 3–31). New York: Basic Books.

McKinley, S. K., Petrusa, E. R., Fiedeldey, C., Mullen, J. T., Smink, D. S., Scott, S. E., … Phitayakorn, R. (2014). Are There Gender Differences in the Emotional Intelligence of Resident Physicians? *Journal of Surgical Education*, *71*(6), e33–e40. https://doi.org/10.1016/j.jsurg.2014.05.003

McNulty, J. P., Mackay, S. J., Lewis, S. J., Lane, S., & White, P. (2015). An international study of emotional intelligence in first year radiography students: The relationship to age, gender and culture. *Radiography*, *22*(2), 6–10. https://doi.org/10.1016/j.radi.2015.10.008

Med, M. (1935). *Sex and Temperament in the primitive societies*. New York: Morrow.

Meece, J. L., Glienke, B. B., & Burg, S. (2006). Gender and motivation. *Journal of School Psychology*, *44*(5), 351–373. https://doi.org/10.1016/j.jsp.2006.04.004

Mitsopoulou, E., & Giovazolias, T. (2015). Personality traits, empathy and bullying behavior: A meta-analytic approach. *Aggression and Violent Behavior*, *21*, 61–72. https://doi.org/10.1016/j.avb.2015.01.007

Montoya, B. I., & Landero, R. (2013). Satisfacción con la vida y autoestima en jóvenes de familias monoparentales y biparentales. *Psicología Y Salud*, *18*(1), 117–122. Retrieved from http://revistas.uv.mx/index.php/psicysalud/article/view/682/1202

Moos, R., & Tricket, E. (1987). *Escalas del clima social: familia, trabajo, instituciones penitenciarias, centro escolar*. Madrid: TEA.

Mortan, R. A., Ripoll, P., Carvalho, C., & Bernal, M. C. (2014). Effects of emotional intelligence on entrepreneurial intention and self-efficacy. *Revista de Psicología Del Trabajo y de Las Organizaciones*, *30*(3), 97–104. https://doi.org/10.1016/j.rpto.2014.11.004

Olhaberry, M., & Farkas, C. (2012). Estrés materno y configuración familiar: estudio comparativo en familias chilenas monoparentales y nucleares de bajos ingresos. *Universitas Psychologicahologica*, *11*(4), 1317–1326.

Ordóñez, A., Maganto, C., & González, R. (2015). [Somatic complaints, emotional awareness and maladjustment in schoolchildren]. *Anales de Pediatría*, *82*(5), 308–15. https://doi.org/10.1016/j.anpedi.2014.03.020

Paredes, M. (2003). Los cambios en la familia en Uruguay: ¿Hacia una segunda transición demográfica? En *Nuevas formas de familia: perspectivas nacionales e internacionales* (pp. 73–101). Montevideo: Fondo de las Naciones Unidas para la Infancia (UNICEF).

Parsons, T., & Bales, R. F. (1956). *Family, socialization and interaction process*. London: Routledge.

Pérez, A., Martínez, M. L., Mesa, I., Pérez, R., Leal, F. J., & Jiménez, I. (2009). Cambios en la estructura y en la función familiar del adolescente en la última década (1997–2007). *Atención Primaria*, *41*(9), 479–485. https://doi.org/10.1016/j.aprim.2009.03.015

Povedano, A., Hendry, L. B., Ramos, M. J., & Varela, R. (2011). Victimización escolar: Clima familiar, Autoestima y Satisfacción con la vida desde una perspectiva de género. *Psychosocial Intervention*, *20*(1), 5–12. https://doi.org/10.5093/in2011v20n1a1

Ramsden, S. R., & Hubbard, J. A. (2002). Family Expressiveness and Parental Emotion Coaching: Their Role in Children's Emotion Regulation and Aggression. *Journal of Abnormal Child Psychology*, *30*(6), 657–667. https://doi.org/10.1023/A:1020819915881

Riglin, L., Collishaw, S., Shelton, K. H., McManus, I. C., Ng-Knight, T., Sellers, R., … Rice, F. (2016). Higher cognitive ability buffers stress-related depressive symptoms in adolescent girls. *Development and Psychopathology*, *28*(1), 97–109. https://doi.org/10.1017/S0954579415000310

Salguero, J. M., & Iruarrizaga, I. (2006). Relaciones entre inteligencia emocional percibida y emocionalidad negativa: ansiedad, ira y tristeza/depresión. *Ansiedad y Estrés*, *12*(2), 207–221.

Sánchez, D., León, S., & Barragán, C. (2015). Correlación de inteligencia emocional con bienestar psicológico y rendimiento académico en alumnos de licenciatura. *Investigación en Educación Médica*, *4*(15), 126–132. https://doi.org/10.1016/j.riem.2015.04.002

Sánchez, M., Fernández, P., Montañés, J., & Latorre, J. (2008). ¿Es la inteligencia emocional una cuestión de género? Socialización de las competencias emocionales en hombres y mujeres y sus implicaciones. *Electronic Journal of Research in Educational Psychology*, *6*(15), 455–474.

Santander, S., Zubarew, T., Santelices, L., Argollo, P., Cerda, J., & Bórquez, M. (2008). Influencia de la familia como factor protector de conductas de riesgo en escolares chilenos. *Revista Médica de Chile*, *136*(3), 317–324. https://doi.org/10.4067/S0034-98872008000300006

Shapiro, L. E. (2010). *How to Raise a Child with a High EQ: Parents' Guide to Emotional Intelligence*. New York: HarperCollins.

Shapiro, L. E., & Tiscornia, A. (1997). *La inteligencia emocional de los niños*. México: Vergara.

Valdivia, C. (2008). Aparecen hoy un gran número de modelos que alteran los parámetros con los que se entendía la vida familiar. Los cambios afectan a todo el sistema familiar. *Revista La Revue Du REDIF*, *2*(1), 15–22.

Yap, B. W., & Sim, C. H. (2011). Comparisons of various types of normality tests. *Journal of Statistical Computation and Simulation*, *81*(12), 2141–2155. https://doi.org/10.1080/00949655.2010.520163