

1 Article

2 **Family functioning, emotional intelligence and** 3 **values: analysis of the relationship with aggressive** 4 **behavior in adolescents**

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12 **Abstract:** Aggressive behavior in adolescence is influenced by a diversity of individual, family and
13 social variables. The purpose of this study was to analyze the relationship between family
14 functioning, emotional intelligence and values for development of different types of aggression, as
15 well as to establish profiles according to the predictor variables of aggression. To do this, a sample
16 of 317 high school students aged 13 to 18 were administered the Peer Conflict Scale, the Family
17 Functionality Scale, the Brief Emotional Intelligence Inventory for Senior Citizens and the Values
18 for Adolescent Development Scales. The study showed that stress management, positive adolescent
19 development and family functioning predominated in nonaggressive subjects with higher scores
20 than aggressors. There was also a negative relationship between the different types of aggression
21 and emotional intelligence, positive values and family functioning. In addition, two different
22 profiles were found. The first had low scores on all the variables, while the second profile had higher
23 scores on all the variables except family functioning which was higher.

24 **Keywords:** family functioning; aggressive behavior; emotional intelligence; adolescent values
25

26 1. Introduction

27 Violent behavior among secondary students has been identified as a serious problem in today's
28 educational field [1], in this sense we can find an increment in the number of researches dedicated to
29 this topic within the scientific literature [2, 3]. At the moment, the studies conducted in several
30 countries point that the prevalence of these behaviors among the youth has increased [4, 5], and it
31 appears as a risk, for the students that do not show this kind of behaviors, and for the educational
32 actions of the educational establishments [6]. Taking into account the difficulties that we can find in
33 this context, it is necessary to know the quality of the scholar cohabitation when planning actions and
34 creating resources [7].

35

36 1.1. Violent behavior in the school environment

37 In the school framework we can find patterns of violent behavior, at physical and verbal levels,
38 and both can be split into two types: direct and indirect. A direct physical aggression refers to, for
39 example, hitting someone, and the indirect physical aggression to stealing someone [8]. A direct
40 verbal aggression implies the insults between the actors implicated in these situations, while
41 speaking negatively about someone behind their backs will be considered as an indirect verbal
42 aggression [9].

43 Likewise, aggressions can be classified depending on the method used to cause damage,
44 separating the forms and the functions of the aggressive behavior [10]. As regards the forms, open
45 aggressions manifest themselves in physical and verbal aggressive conducts, such as the threats, the

46 hits, and the relational aggressions that damage social inclusion in a group, through actings for the
47 social exclusion [11]. Concerning the functions, a reactive aggression is characterized by a revenge
48 conduct that appears as a response to a provocation, while the proactive aggression does not need a
49 provocation to apply [12]. Both kinds of aggression have been investigated in both teenagers and
50 children at a scholar age. In the Manning, Elledge, Swails, y Vernberg study [13], for the primary level,
51 reactive aggression was pointed as a longitudinal predictor of the victimization among pairs, being
52 more frequent among girls. In the same way, individual factors are linked to the relational aggression
53 of girls, being this one an indicator of this type of problematic behavior [14]. Moreover, some
54 differences are to point with regard to the gender in the several types of aggression [15], where the
55 boys represented are more likely to reactive and proactive aggressions than the girls [16,17]. On the
56 other hand, van Hazebroek, Olthof, and Goossens [18] confirmed a higher level of reactive aggressive
57 behavior in the group of boys than in the groups of girls, and they did not find any difference of
58 gender within the proactive aggression.

59 The differences on the nature of aggressions depend on the profile of both the victim and the
60 aggressor. Jara, Casas, and Ortega-Ruiz [19] suggest that aggressors have proactive aggressive
61 behaviors, even when the reactive aggressions are present in the victims. Depending on the gender
62 of aggressors, there is no consensus about relational violence among the studies conducted. Ettekal
63 and Ladd [20] point the feminine group as the leader in the relational violence. Nevertheless, other
64 studies do not find any significant differences between men and women.

66 1.2. Variables related to aggressive behavior

67 Adolescence is a developmental period characterized by experimentation and sensations
68 seeking associated to impulsivity [21]. On the other hand, aggressions among teenagers are
69 associated to individual, academic, family and social factors [22]. Aggressive behaviors are connected
70 to personal al social values [23, 24]. Due to Jara et al. [19], social values have a higher scope for
71 aggressors than for victims, personal values are relevant for both agents, and individual values are
72 higher for aggressors and lower for victims. Plus, these authors underline the relationship between
73 being and not being part of aggressive conducts and social, personal and individual values.

74 Aggressive conducts are related to different variables among which we count the emotional and
75 the social ones [25]. In the study conducted by Zych, Beltrán-Catalán, Ortega-Ruiz, and Llorent [26],
76 bullying aggressors were indicated to have low levels of social and emotional competences, while the
77 victims of bullying achieve identical results than the students not involved. Thus, research about
78 emotional intelligence in victims and aggressors proves that victims present a lower emotional
79 intelligence, meaning that they have a lower capacity to handle stressing situations, the aggressors,
80 they also show low levels of emotional intelligence and a deficient stress manage [27]. At the same
81 time, several authors note that a bad emotional regulation is a characteristic of reactive aggressions
82 [28, 17].

83 In the scope of family dynamic, it has been confirmed that aggressive behaviors are related to
84 family functioning [29]. Parents represent a source of influence over the youth behavior [30, 31],
85 together with the peer group, since sensitive environments, where conflict reigns, critics and insults,
86 and lack of affection, can lead to aggressive behaviors, not linking the consequences to such behaviors
87 [32]. According to the studies conducted so far, the profile of parenting characterized by the use of
88 physical and verbal aggressions together with hostile behaviors are connected to both functions of an
89 aggression: reactive and proactive. In this sense, a negative parenting and a dysfunctional
90 atmosphere is associated to the presence of proactive and reactive aggressions [33].

91 In the review of the literature, it is confirmed that the connexion between the aggression
92 modalities and some variables such as the emotional intelligence, the values, and the family
93 functioning, if the rapport among them is negative [34], social and personal values are reduced [35],
94 and there is a higher risk of family dysfunction [36].

95 Nowadays, the number of studies establishing the profile of subjects relying on the modalities
96 of aggression is limited [37], as well as the relation between modalities and emotional intelligence,
97 family functioning and values.

98

99 1.3. *The present study*

100 This study analyses the relationship between emotional intelligence, development values and
101 family functioning within the diverse modalities of aggressive behaviors. At the same time, some
102 profiles will be drawn according to the variables predicting an aggression taking into account the
103 diverse modalities of aggression.

104 Specifically, according to previous research, some hypothesis are put forward: (1) Students that
105 result to be aggressors present a higher score in all the modalities of aggressions than the not
106 aggressors students; (2) emotional intelligence, values and family functioning are the variables
107 predicting the emergence of aggressive conducts in the study sample.

108 **2. Materials and Methods**109 2.1. *Participants*

110 The study is based on data collected randomly by using multi-stage cluster samples. Out of 317
111 youth from different high schools in the province of Almería, Spain, 50.8% ($n=161$) were male and
112 49.2% ($n=156$) were females. Students were between 13 and 18 years old ($M=14.93$; $DT=1,065$). The
113 average age of males was 14.85 ($DT= 1,008$) and 15.01 ($DT= 1.119$) for females. The sample was
114 constituted by two class levels, 61.5% ($n=195$) belonged to tenth grade and 38.5% ($n=122$) belonged to
115 eleventh grade.

116

117 2.2. *Instruments*

118 An ad hoc questionnaire collecting sociodemographic data (age, gender, grade), and some
119 questions about the students implication on violent situations among pairs in the scholar
120 environment was employed (do you suffer/have suffered violent episodes by your classmates?, do
121 you exercise/have exercised violence over your classmates?, have you witnessed violence exercised
122 over your classmates?, have you intervened when seeing someone using violence against your
123 classmates?).

124 *Peer Conflict Scale (PCS)* [38]. The Spanish adaptation from Pérez-Fuentes et al. [39] was used. This
125 scale evaluates the open and relational forms as well as reactive and proactive functions. It is
126 constituted by 40 items, where a Likert-type scale made of 4 points is employed for responses (0
127 equals to not right at all and 3 equals to completely right). In the study of Gázquez et al. [40] an
128 internal consistency was found for each one of the scales (physical and reactive $\alpha=0.86$; physical and
129 proactive $\alpha=0.85$; reactive and relational $\alpha=0.80$; proactive and relational $\alpha=0.83$. In our case, the
130 reliability for each scale was of: .81 in proactive open aggressions; .85 in open reactive aggressions;;
131 .81 in relational proactive aggressions and .78 in relational reactive aggressions. In general, the scale
132 reliability was of $\alpha= .92$.)

133 *Family Functioning Scale (APGAR)* [41]. The Spanish adaptation of the original version was used
134 here [42]. This scale is made of 5 items, evaluating the adaptation, growth, society, affection and
135 resolution, with three options of response (0 = hardly ever, 1 = sometimes, 2 = quite often). There are
136 also three categories of functionality that are: severe dysfunction (0 to 3), moderate dysfunction (4 to
137 6) and family function (6 or more). In the study conducted by Romero-Abrio et al. [43] the reliability
138 was of $\alpha= 0.80$. In our paper, Cronbach's alpha was of .75.

139 *Brief Emotional Intelligence Inventory for Senior Citizens (EQ-I-M20)* [44]. The adaptation by Pérez-
140 Fuentes, Gázquez, Mercader, y Molero [45] was used here since it was validated and measured on
141 the Spanish adult population. This inventory is composed by 20 items, divided in 5 factors:
142 Intrapersonal, Interpersonal, Stress management, Adaptability and State of mind. Responses are
143 based on a Likert-type scale of 4 points. The original version got an adequate consistency of 0.89 [44].
144 In the brief version, Cronbach's alpha was .57 for the intrapersonal factor, .80 for the interpersonal
145 factor, .68 for the stress management, .81 for the adaptability and .83 for the state of mind. In the
146 investigation conducted by Bermúdez, Méndez, and García-Munuera [46] the instrument reliability
147 obtained with a Cronbach's alpha was .89 and in every subcategory was of : $\alpha=.80$ Interpersonal; .57
148 Intrapersonal; .68 Stress management; .81 Adaptability and .83 State of mind. For this sample the

149 internal consistency of the instrument was of .78., and for every sub-scale of: $\alpha=.77$ Intrapersonal, $\alpha=$
150 .67 Interpersonal, $\alpha= .76$ Stress management, $\alpha=.46$ Adaptability and $\alpha= .83$ State of mind.

151 *Escala de Valores para el Desarrollo Positivo Adolescente* (EV-DPA) [47] is constituted of 24 items that
152 evaluate the importance that youth gives to values for their positive development. Responses
153 correspond to a scale going from 1 to 7 where 1 is “not important at all” and 7 is “the most important”.
154 The scale is composed by three dimensions: social values, personal values, and individualist values,
155 which obtained the following reliability levels: social values: $\alpha=.88$; personal values $\alpha=.83$ and
156 individualist values $\alpha=.79$. For the general scale the Cronbach’s alpha obtained was of .91. In the
157 research of Cortés-Morales, Valdez-Menchaca, Vázquez, and Hernández-Gutiérrez [48] the reliability
158 of the scale was $\alpha=.89$.

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160 2.3. Procedure

161 In the first place the responsible persons directing the secondary educational centers were
162 contacted in order to inform them about the objectives, methodology and use of data, as well as to
163 get their authorization. In the second place, the students were announced that the participation was
164 based on volunteers and they were briefed with the instructions to fulfill the questionnaire. Plus,
165 there were notified that the data was going to be collected anonymously and confidentially.
166 Nevertheless, every participant had the possibility to give their informed consent in order to ratify
167 the respect of the ethics in this research. The study was approved by the Bioethics Committee of the
168 University of Almería.

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170 2.4. Data Analyses

171 For the treatment and analysis of data the statistical package SPSS version 23.0 for Windows was
172 employed.

173 First, a descriptive analysis is presented, and, in order to explore the relationship between the
174 variables, analyses of bivariate correlations are performed. After that, linear regression analyses
175 stepwise were performed. The modalities of aggression were used as dependent variables (open
176 proactive aggression, open reactive aggression, relational proactive aggression, and relational
177 reactive aggression). The variable used as predictors were: emotional intelligence, values for the
178 positive teenage development and family functioning. Precisely, for the estimation of each model of
179 regression all variables correlating with the dependent variable are included.

180 Finally, a two-stage sample was implemented in order to determine de the diverse profiles,
181 relying on the variables that were finally included in every regression model. After classification of
182 groups with conclusions drawn from clusters, a comparative study of the average is performed
183 through the Student's *t*-distribution for independent samples, that enables to know the differences
184 existing between clusters in relation to the modalities of aggression, and through the Cohen's *d* for
185 determining the size of the effect.

186 3. Results

187 3.1. Aggressive conducts in secondary compulsory education students: descriptive analysis

188 From the total of the sample, 13.6% ($n=43$) had suffered or are currently suffering episodes of
189 violence from their classmates. On the other hand, 12.9% ($n=41$) have exercised or exercise some kind
190 of violence over their classmates. 65.3% ($n=207$) have witnessed violent episodes between classmates.

191 Taking into account the distribution by the gender of the aggressors, 78% ($n=32$) are males and
192 22% ($n=9$) are females. In the group of victims, 55.8% ($n=24$) are males and 44.2% ($n=19$) are females.

193 Besides that, the average scores obtained in the total sample, for every dimension of aggression,
194 were al follows: Open proactive aggression, ($M=.24$; $DT=.37$), Open reactive aggression ($M=.55$;
195 $DT=.54$), Relational proactive aggression, ($M=.22$; $DT=.35$), and Relational reactive aggression ($M=.30$;
196 $DT=.37$). As concerns the gender, there are significant differences within the open proactive
197 aggressions ($t_{(315)}=3.36$; $p<.01$; $d=.38$), males getting higher scores ($M=.30$; $DT=.43$) compared to females

198 ($M=.16$; $DT=.28$). For the relational proactive aggression, males ($M=.27$; $DT=.41$) present significantly
199 higher values ($t_{(315)}=2.38$; $p<.05$; $d=.27$) than females ($M=.18$; $DT=.28$).

200 In the aggressor's group, average scores are significantly higher for every modality of
201 aggression. [Open proactive aggression ($t_{(315)}=3.66$; $p<.01$; $d=.61$); Open reactive aggression ($t_{(315)}=4.58$;
202 $p<.001$; $d=.77$); Relation proactive aggression ($t_{(315)}=3.39$; $p<.01$; $d=.57$), Relational reactive aggression
203 ($t_{(315)}=2.40$; $p<.05$; $d=.40$)] compared to the non aggressors group. Concerning the group of victims,
204 they obtain a significant higher average in terms of open reactive aggression ($t_{(315)}=1.99$; $p<.05$; $d=.33$)
205 compared to the group of non-victims.

206 With regards to the age of the participants, there is no correlation established in accordance to
207 the modality of aggression analyzed here.

208 3.2. Emotional intelligence, values and family functioning: relation to the aggression

209 Results derived from the correlational analysis, as shown in table 1, indicate that open proactive
210 aggression has a negative correlation with most of the emotional intelligence factors. (Intrapersonal:
211 $r=-.13$; $p<.05$; Interpersonal: $r=-.18$; $p<.01$; Stress management: $r=-.20$; $p<.001$; State of mind: $r=-.15$;
212 $p<.01$), social values($r=-.26$; $p<.001$), personal values ($r=-.26$; $p<.001$), and family function ($r=-.20$;
213 $p<.001$).

214 Open reactive aggression shows negative correlations with stress management ($r=-.41$; $p<.001$),
215 social values ($r=-.17$; $p<.01$), personal values ($r=-.15$; $p<.01$), and family function ($r=-.17$; $p<.01$).

216 For the relational proactive aggression, some negative correlations are also observed concerning
217 the emotional intelligence dimensions (Intrapersonal: $r=-.13$; $p<.05$; Interpersonal: $r=-.20$; $p<.001$;
218 Stress management: $r=-.17$; $p<.01$), social values ($r=-.24$; $p<.001$), personal values ($r=-.24$; $p<.001$), and
219 family function ($r=-.18$; $p<.01$).

220 **Table 1.** Correlation between the modalities of aggression and emotional intelligence variables, va-
221 lues and family function.

| | | Aggression PCS | | | |
|--|----------------------|----------------|---------|---------|---------|
| | | OPAg | ORAg | RPAg | RRAg |
| Emotional Intelligence EQ-I-M20 | Intrapersonal | -.13* | -.04 | -.13* | -.08 |
| | Interpersonal | -.18** | -.07 | -.20*** | -.07 |
| | Stress management | -.20*** | -.41*** | -.17** | -.22*** |
| | Adaptability | -.01 | .02 | -.05 | -.02 |
| | State of mind | -.15** | -.10 | -.08 | -.12* |
| Values for the positive adolescent development EV- DPA | Social values | -.26*** | -.17** | -.24*** | -.12* |
| | Personal values | -.26*** | -.15** | -.24*** | -.17** |
| | Individualist values | .02 | .08 | .02 | .09 |
| Family function APGAR | | -.20*** | -.17** | -.18** | -.12* |

222 OPAg = Open proactive aggression; ORAg = Open reactive aggression; RPAg = Relation proactive
223 aggression; RRAg = Relational reactive aggression. * $p<.05$; ** $p<.01$; *** $p<.001$

224 Finally, relational reactive aggression has a negative correlation with stress management ($r=-$
225 $.22$; $p<.001$), state of mind ($r=-.12$; $p<.05$), social values ($r=-.12$; $p<.05$), personal values ($r=-.17$; $p<.01$),
226 and family function ($r=-.12$; $p<.05$).

227 Based on the results of the correlation analysis, multiple regression models are drawn for every
228 modality of aggression, taking into account, in each case, the variables where correlations were
229 detected and introducing them as potential predictors in1 the model.

230 3.3. Multiple linear regression model: Open proactive aggression

231 Due to the data obtained in table 2, the regression analyses shows 3 models where the third is
232 the most exploitable one, with 12.7% ($R^2=.12$) of the variance explained by the factors included in the
233 model.

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Table 2. Multiple linear regression model steps (Open proactive aggression).

| Model | R | R ² | R ² adjusted | Change Statistics | | | | Durbin Watson |
|-------|-----|----------------|----------------------------|-------------------|-----------------------------|----------------|----------------------------|------------------|
| | | | | SE | Change in R ² | Change in F | Sig. of the change in F | |
| 1 | .26 | .07 | .06 | .36 | .07 | 23.54 | .000 | 1.90 |
| 2 | .32 | .10 | .10 | .35 | .03 | 12.70 | .000 | |
| 3 | .35 | .12 | .11 | .35 | .02 | 7.72 | .006 | |

| Model 3 | Unstandardized coefficients | | Standardized coefficients | | t | Sig. | Collinearity | |
|-------------------|--------------------------------|-----|------------------------------|--|-------|------|--------------|------|
| | B | SE | Beta | | | | Tol. | VIF |
| | (Constant) | .98 | .11 | | | | | 8.74 |
| Social values | -.07 | .01 | -.22 | | -4.13 | .000 | .95 | 1.04 |
| Stress management | -.08 | .02 | -.18 | | -3.53 | .000 | .99 | 1.00 |
| Family function | -.02 | .00 | -.15 | | -2.77 | .006 | .95 | 1.04 |

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In order to confirm the validity of the model, the independence of the residues was analyzed. The D statistic of Durbin-Watson obtains a value $D=1.90$, which confirms the absence of positive and negative correlation. Plus, t value is associated to an error probability inferior to 0.05 in all the variables included in the model (social values, stress management and family function). On the other hand, standardized coefficients reveal that the variable presenting a higher explicative weight is social values. Finally, the absence of collinearity among the variables included in the model is assumed due to the high values obtained for the tolerance indicators and the low values for the VIF.

3.4. Multiple linear regression model: Open reactive aggression

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In table 3, the regression analysis shows 3 models where the last one explains 21.7% of the variance ($R^2=.21$). The absence of correlation positive and negative is confirmed through the statistic D of Durbin-Watson ($D=1.55$).

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Table 3. Multiple linear regression model steps (Open reactive Aggression).

| Model | R | R ² | R ² adjusted | Change Statistics | | | | Durbin Watson |
|-------|-----|----------------|----------------------------|-------------------|--------------------------|-------------|---------------|------------------|
| | | | | SE | Change in R ² | Change in F | Sig. F Change | |
| 1 | .41 | .17 | .17 | .49 | .17 | 66.81 | .000 | 1.55 |
| 2 | .44 | .20 | .19 | .49 | .02 | 9.83 | .002 | |
| 3 | .46 | .21 | .20 | .48 | .01 | 6.72 | .010 | |

| Model 3 | Unstandardized coefficients | | Standardized coefficients | | t | Sig. | Collinearity | |
|-------------------|--------------------------------|------|------------------------------|--|-------|------|--------------|-------|
| | B | SE | Beta | | | | Tol. | VIF |
| | (Constant) | 1.85 | .17 | | | | | 10.37 |
| Stress management | -.26 | .03 | -.41 | | -8.28 | .000 | .99 | 1.00 |
| Family function | -.03 | .01 | -.13 | | -2.59 | .010 | .96 | 1.04 |
| Personal values | -.07 | .02 | -.13 | | -2.59 | .010 | .96 | 1.04 |

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The value of t is associated to an error probability inferior to 0.05 within all the varieties included in the model, standardized coefficients reveal that the variable showing a higher explicative weight is the stress management. The absence of collinearity with values in tolerance and VIF near the unit are assumed.

252 3.5. Multiple linear regression model: relational proactive aggression

253 Concerning the relational proactive aggression, due to the data colecta in table 4, the regression
 254 analysis results in 4 models, quiere the forth one is the one with the highest explicative capacity with
 255 12.2% ($R^2=.12$) of the variance explained by the factors included in the model.

256 **Table 4.** Multiple linear regression model steps (relational proactive aggression).

| Model | R | R ² | R ² corrected | Change Statistics | | | | Durbin Watson |
|-------|-----|----------------|-----------------------------|-------------------|--------------------------|----------------|---------------|------------------|
| | | | | SE | Change in R ² | Change in F | Sig. F Change | |
| 1 | .24 | .06 | .05 | .34 | .06 | 20.28 | .000 | 1.96 |
| 2 | .29 | .08 | .08 | .34 | .02 | 9.44 | .002 | |
| 3 | .32 | .10 | .09 | .34 | .01 | 6.72 | .010 | |
| 4 | .34 | .12 | .11 | .33 | .01 | 5.23 | .023 | |

| Model 4 | Unstandardized coefficients | | Standardized coefficients | | t | Sig. | Collinearity | |
|-------------------|--------------------------------|------|------------------------------|------|-------|------|--------------|------|
| | B | SE | Beta | Tol. | | | VIF | |
| | (Constant) | 1.04 | .12 | | | | | 8.08 |
| Social Values | -.04 | .01 | -.15 | | -2.58 | .010 | .80 | 1.24 |
| Stress management | -.07 | .02 | -.18 | | -3.37 | .001 | .97 | 1.02 |
| Interpersonal | -.08 | .03 | -.14 | | -2.46 | .014 | .81 | 1.22 |
| Familiar function | -.01 | .00 | -.12 | | -2.28 | .023 | .95 | 1.04 |

257 In order to confirm the validity of the model, the independence of the data residue were
 258 analyzed. The Durbin–Watson statistic obtains the value $D=1.96$, which confirms the absence of
 259 positive and negative correlation. Plus, t value is associated to an error probability inferior to 0.05 in
 260 all the variables included in the model. On the other hand, standardized coefficients reveal that the
 261 variables presenting a higher explicative weight are stress management and social values. Finally,
 262 the absence of collinearity among the variables included in the model is assumed due to the high
 263 values obtained for the tolerance indicators and the low values for the VIF.
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266 3.6. Multiple linear regression model: relational reactive aggression

267 In table 5, the regression analysis shows 2 models where the last one explains 8.1% of the
 268 variance ($R^2=.08$) through the statistic Durbin–Watson statistic ($D=1.55$). The value of t is associated
 269 to an error probability inferior to .05 within all the varieties included in the model: stress management
 270 and personal values. Standardized coefficients reveal that the variable showing the highest power of
 271 prediction for the relational reactive aggression is stress management. The absence of collinearity is
 272 confirmed with values obtained in the indicators of Tolerance and VIF.
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277 **Table 5.** Multiple linear regression model steps (relational reactive aggression).

| Model | R | R ² | R ² adjusted | Change Statistics | | | | Durbin Watson |
|-------|-----|----------------|----------------------------|-------------------|-----------------------------|----------------|---------------|------------------|
| | | | | SE | Cambio en R ² | Cambio en F | Sig. F Change | |
| 1 | .22 | .05 | .04 | .36 | .05 | 16.40 | .000 | 1.91 |
| 2 | .28 | .08 | .07 | .36 | .03 | 10.69 | .001 | |

| Model 2 | Unstandardized | | Standardized | | t | Sig. | Collinearity | |
|-------------------|----------------|-----|--------------|--|-------|------|--------------|------|
| | coefficients | | coefficients | | | | Tol. | VIF |
| | B | SE | Beta | | | | | |
| (Constant) | .90 | .12 | | | 7.23 | .000 | | |
| Stress management | -.09 | .02 | -.22 | | -4.13 | .000 | 1.00 | 1.00 |
| Personal values | -.06 | .02 | -.17 | | -3.27 | .001 | 1.00 | 1.00 |

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279 *3.7. Profiles drawn from the predictive variables of aggression and modalities of aggression*

280 For the formation of groups, an analysis of a cluster in two stages was performed including the
 281 variables from the multiple linear regression models previously presented (family function, social
 282 values, personal values, stress management and interpersonal factor). For the cluster construction,
 283 family function variable is chosen as the categorized variable, this means that results from 0 to 3
 284 points are considered as severe dysfunction, from 4 to 6 moderate dysfunction, and from 7 to 10 high
 285 function. In this case, family function is the predictor with the highest relevance in the construction
 286 of clusters. (Figure 1).

287 From the inclusion of these variables two groups emerge (Figure 1) with the following
 288 distribution: 30.6% ($n=97$) of the subjects belong to cluster 1 and 69.4% ($n=220$) to cluster 2. In table 6
 289 there is a summary of the average scores of the analyzed variables, for the total sample as well as for
 290 each cluster separately.

291 **Table 6.** Average scores for the total sample and clusters

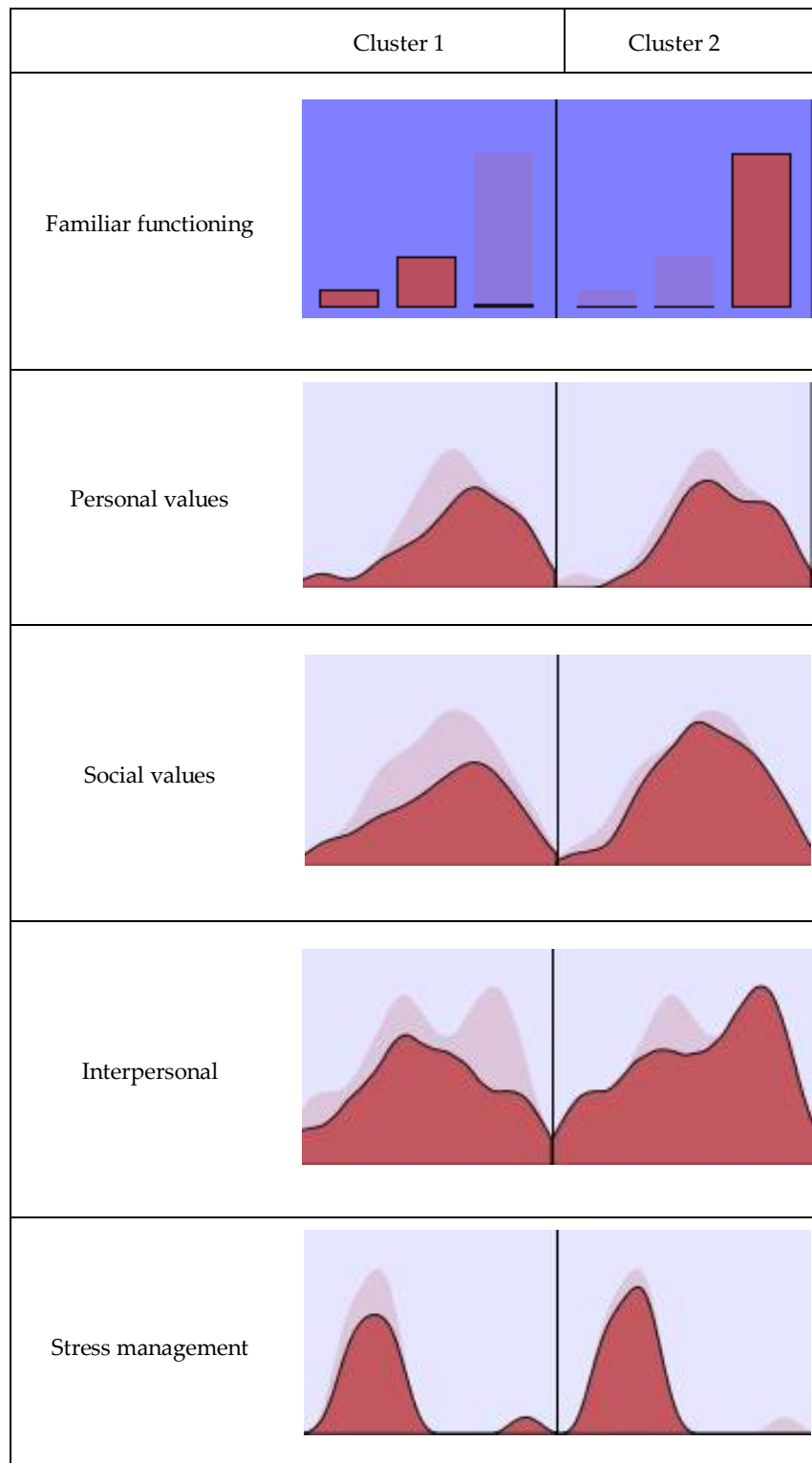
| | Total sample ($N=317$) | Cluster | |
|-------------------|-----------------------------|------------------------|------------------------|
| | | 1 | 2 |
| | | ($n=97$) | ($n=220$) |
| Family function | $M=7.44$ ($DT=2.32$) | $M=4.51$ ($DT=1.65$) | $M=8.73$ ($DT=1.05$) |
| Personal values | $M=5.38$ ($DT=1.02$) | $M=5.15$ ($DT=1.15$) | $M=5.48$ ($DT=.94$) |
| Social values | $M=4.89$ ($DT=1.16$) | $M=4.67$ ($DT=1.26$) | $M=4.98$ ($DT=1.11$) |
| Interpersonal | $M=2.94$ ($DT=.59$) | $M=2.89$ ($DT=.63$) | $M=2.97$ ($DT=.58$) |
| Stress management | $M=2.59$ ($DT=.85$) | $M=2.63$ ($DT=1.01$) | $M=2.57$ ($DT=.78$) |

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293 The first group resulting from the conglomerate analysis (cluster 1), is characterized by showing
 294 a low-moderate family function, inferior average scores in personal values and social values
 295 compared to the results for the total sample, and similar scores to the average of the sample in
 296 interpersonal and stress management factors. Meanwhile, the second cluster, with a high family
 297 function, shows superior average scores in personal and social values compared to the results of the
 298 total samples, and similar scores to the average of the sample in interpersonal and stress management
 299 factors.

300 After the classification of the groups through the clusters solution, a t -test was performed for
 301 independent samples, with the aim of deducing the differences existing between the clusters with
 302 respect to each one of the modalities of aggression. Significant differences between the clusters are
 303 noted for the open proactive aggression ($t_{(315)}=2.22$; $p<.05$; $d=.27$), cluster 1 ($M=.31$; $DT=.44$) showing

304 higher scores than cluster 2 ($M=20$; $DT=.33$). There are no other significant differences between
 305 clusters for the rest of the modalities of aggression.
 306



307 **Figure 1.** Composition of clusters. Note. Factors ordered by the importance of entry.

308 4. Discussion

309 Aggressive conducts are present within the adolescent stage and their prevalence increases
 310 during the last years [1, 3]. In this sense, the outcome of this study shows the percentages of students
 311 suffering of having suffered violent episodes by their peers, and those of the ones exercising or having
 312 exercised violence over their classmates. Even if this percentages are not too high, they go in line with

313 those of Crespo-Ramos et al. [4] and can be explained by the difference of size in the sample.
314 Concerning the gender of aggressors, the percentage of males is significantly higher in accordance
315 with other studies where the highest results belong to the male group [16, 17]. By contrast, for
316 Manring et al. [13], whose study was performed at primary school level, female obtain the highest
317 scores. However, within the group of victims there were no significant differences.

318 Concerning the gender, scores have been significantly different only for open proactive
319 aggressions and relational proactive aggressions, in both, males get higher results than females in the
320 same line than Rieffe et al. [17] where youth reaches high percentages in proactive and reactive
321 aggression, but in contrast to the results of van Hazebroek et al. [18] where the reactive aggression is
322 the predominant among males, and in proactive aggressions there was no significant difference
323 noted. Regarding the figure of the victim and the figure of the aggressor depending on the scales of
324 aggressions, the group of aggressors shows significantly higher average scores in all scales than the
325 group of non-aggressors as in other studies where aggressors show proactive aggressive conducts
326 [19, 20]. On the other hand, the victims obtained higher scores for the open reactive aggression.

327 The correlation between the modalities of aggression and the variables of emotional intelligence,
328 values and family function showed a negative relation since the higher levels of aggressiveness, the
329 lower levels of emotional intelligence [28, 34], personal and social values are also reduced and there
330 is a higher risk of family disfunction [33, 36].

331 Multiple linear regression analyses showed that open and relational proactive aggressions can
332 be predicted or explained by social values, stress management and family function, including the
333 interpersonal dimension in the relational proactive aggression. Concerning the open and relational
334 reactive aggressions, the dimension highlighted are stress management and personal values. Plus, on
335 the first type family function was included. These results are in line to other studies where the reactive
336 aggression open and relational are characterized by a low stress management and a bad emotional
337 regulation [26, 28]. Finally, in accordance with the variables of prediction (family function, personal
338 values, social values, interpersonal y stress management) two profiles of subjects and the differences
339 in the modalities of aggression arise. In this sense, similar studies establish profiles of subjects
340 depending on the type of aggression [37].

341 5. Conclusions

342 The findings of this study reveal the relationship between all the analyzed variables, and among
343 these, which aspects are to take into account when intervening or developing an analytical tool, since
344 not all of them predict every modality of aggression. Nevertheless, the size of the sample is one of
345 the limitations of this study, if in future investigations the sample was extended, we could confirm if
346 the variables explaining aggressive conducts of youth are the same or not. Plus, concerning the family
347 function, it would be interesting to analyze if the presence of aggressive behaviors is due to the
348 antecedents of the family function or to its consequences, since the current scientific literature is not
349 clear about this point. In summary, it is important to conduct this type of studies for establishing a
350 protocol of intervention, because this way, we can intervene face to an established profile and face to
351 previously determined aspects.

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353 review. J.J.G.L. applied the search strategy. All authors applied the selection criteria. All authors completed the
354 assessment of risk of bias. All authors analyzed and interpreted data. M.d.M.M.J., M.d.C.P.F. and A.B.B.M.,
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361

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