

Accepted Manuscript

Title: Which parenting style is more protective against adolescent substance use? Evidence within the European context

Author: Amador Calafat Fernando García Montse Juan
Elisardo Becoña José Ramón Fernández-Hermida



PII: S0376-8716(14)00776-5
DOI: <http://dx.doi.org/doi:10.1016/j.drugalcdep.2014.02.705>
Reference: DAD 5086

To appear in: *Drug and Alcohol Dependence*

Received date: 21-10-2013
Revised date: 20-2-2014
Accepted date: 21-2-2014

Please cite this article as: Calafat, A., García, F., Juan, M., Becoña, E., Fernández-Hermida, J.R., Which parenting style is more protective against adolescent substance use? Evidence within the European context., *Drug and Alcohol Dependence* (2014), <http://dx.doi.org/10.1016/j.drugalcdep.2014.02.705>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Which parenting style is more protective against adolescent substance use? Evidence within the European context.

Amador Calafat, Fernando García, Montse Juan, Elisardo Becoña, José Ramón Fernández-Hermida

Amador Calafat. European Institute of Studies on Prevention (Irefrea). 07003 Palma de Mallorca, Spain.

Fernando García. Faculty of Psychology. University of Valencia. Av. Blasco Ibáñez, 21. 46010. Valencia. Spain.

Montse Juan. European Institute of Studies on Prevention (Irefrea). 07003 Palma de Mallorca, Spain.

Elisardo Becoña. Faculty of Psychology. University of Santiago de Compostela. 15782 Santiago de Compostela. Spain

José Ramón Fernández-Hermida. Faculty of Psychology. University of Oviedo. 33003 Oviedo. Spain.

Corresponding author: Amador Calafat. European Institute of Studies on Prevention (Irefrea).

07003 Palma de Mallorca, Spain. Telephone: +34971727434; Fax: +34971213306;

irefrea@irefrea.org.

ABSTRACT

Background: This study examines whether authoritative parenting style (characterized by warmth and strictness) is more protective against adolescent substances use than authoritarian (strictness but not warmth), indulgent (warmth but not strictness) and neglectful (neither warmth nor strictness) parenting styles. Emergent research in diverse cultural contexts (mainly Southern European and Latin American countries) questions the fact that authoritative would always be the optimum parenting style. **Design:** Multi-factorial MANOVAs. **Participants:** A sample of 7,718 adolescents, 3,774 males (48.9%), 11 to 19 year-olds ($M = 14.63$ year-olds, $SD = 1.9$ years) from Sweden, United Kingdom, Spain, Portugal, Slovenia, and the Czech Republic. **Measurements:** Parenting style dimensions (warmth and strictness) and adolescent substance use (alcohol, tobacco, and illegal drugs); additionally another three adolescent outcomes were also measured (self-esteem, school performance and personal disturbances) all of them related in the literature with substance use. **Findings:** Both indulgent and authoritative parenting styles were associated with better outcomes than authoritarian and neglectful parenting in all the countries studied. Overall, our results support the idea that in Europe the indulgent parenting style performs as well as the authoritative one since adolescents' scores in the youth outcomes were equal (on substance use and personal disturbances) or even better (on self esteem and school performance) than for authoritative parenting style. **Conclusions:** Parenting styles relate to substance use and other outcomes in the same way in different countries explored. The so called indulgent parenting style appears to be as good as the authoritative in protecting against substance abuse.

KEYWORDS: Youth substances use, Youth outcomes, Family socialization, Parental Warmth, Parental Strictness, Parenting styles

Accepted Manuscript

1. INTRODUCTION

Data from both the United States and Europe suggest a high prevalence of substance use by adolescents (Conway et al., 2013; European Monitoring Centre for Drugs and Drug Addiction, 2012), which is relevant since risky substance use patterns expose adolescents to serious long-term health problems (Thompson et al., 2013).

Parental socialization has been hypothesized to be a major source of influence on protection against adolescent substance use (Adalbjarnardottir and Hafsteinsson, 2001; Alati et al., 2010; Becoña et al., 2012a, 2012b; Fernández-Hermida et al., 2012; García and Gracia, 2009; Harakeh et al., 2005; Hummel et al., 2013). Research examining relationships between parenting styles and youth's outcomes traditionally follows a two-dimensional framework with four typologies of parental socialization styles. The combination *responsiveness* (warmth, acceptance, involvement) and *demandingness* (strictness, imposition, parental firmness; Adalbjarnardottir and Hafsteinsson, 2001; Cano et al., 2012; Darling and Steinberg, 1993; Lamborn et al., 1991; Steinberg, 2005; Steinberg et al., 1994; Turkel, 2008), both theoretically orthogonal dimensions (Darling and Steinberg, 1993; Lamborn et al., 1991; Maccoby and Martin, 1983; Steinberg, 2005; Steinberg et al., 1994; Turkel and Tezer, 2008), defines four types of parenting styles known normally as: authoritative (warmth and strictness), authoritarian (strictness but not warmth), indulgent (warmth but not strictness), and neglectful (neither warmth nor strictness; (Darling and Cumsille, 2003; Steinberg et al., 2006).

Although both authoritative and authoritarian parents are defined by strictness, only the authoritative parenting style can exercise authority in a rational and flexible manner, encouraging communication and negotiation with children, and explaining their decisions to them. Thus, authoritative parents set clear limits while showing warmth and involvement to their children.

The so called indulgent parents, like the authoritative ones, also foster an environment of acceptance, dialogue and affection; but when children disobey, indulgent families do not impose strict rules since they believe children can regulate their own behaviour through dialogue and reflection (García and Gracia, 2009; Lamborn et al., 1991; Maccoby and Martin, 1983; Rodrigues et al., 2013).

Research conducted mainly in Anglo-Saxon contexts with European-American samples has consistently recognized authoritative parents (i.e., harmonious warm and responsive parents that exert concurrently firm control and maturity demands) as the optimal parenting style since it is regularly associated with optimum outcomes on children and adolescents (Lamborn et al., 1991; Maccoby and Martin, 1983; Montgomery et al., 2008; Steinberg et al., 1994). Adolescents from authoritative households use less illegal drugs (Bahr and Hoffman, 2010; Montgomery et al., 2008), are more resilient (Kritzas and Grobler, 2005), achieve better academic performance (Cohen and Rice, 1997; Im-Bolter et al., 2013), have better psychological competence (Lamborn et al., 1991), and better adaptive strategies (Aunola et al., 2000), and are less involved in the broad-spectrum of behaviour problems (Lamborn et al., 1991; Steinberg et al., 1994). On the opposite side, adolescents with neglectful parents (neither warmth nor strictness) would perform worse in all those youth outcomes (Aunola et al., 2000; Lamborn et al., 1991; Montgomery et al., 2008; Steinberg et al., 1994). Finally, adolescents from authoritarian and indulgent homes score on all outcomes between the highest possible adjustment of the authoritative style and the lowest possible adjustment of the neglectful style. Adolescents from indulgent (warmth but not strictness) homes, may benefit in the area of psychosocial development but show higher rates of deviance (i.e., in the area of drug use and school performance; Lamborn et al., 1991; Maccoby and Martin, 1983; Steinberg et al., 1994).

A parenting styles approach includes overall long-time parenting characteristics, allows researchers to better integrate and organize specific parenting practices, and study accurately the relationships between parenting styles, parenting practices and their relations to children's psychosocial adjustment (Darling and Steinberg, 1993; Lamborn et al., 1991; Maccoby and Martin, 1983; Symonds, 1939). Indulgent parents, like the authoritative ones, also foster an environment of acceptance, dialogue and affection. As a result, adolescents from indulgent homes have a strong sense of self-confidence but also report higher frequencies of substance misuse and school misbehaviour, and show low performance in school (in the US, Lamborn et al., 1991; Steinberg et al., 1994). Although monitoring has initially been conceptualized as a parenting practice involving active attempts on the part of parents to watch over children as a means of firm control or strictness (shared by authoritarian and authoritative), lately theoretical and empirical work has noted the importance of distinguish between authoritarian and authoritative parenting styles (see Kerr and Stattin, 2000; Stattin and Kerr, 2000). Even though parental monitoring predicted a wide range of positive adolescent outcomes, most of this relationship was explained by adolescents' spontaneous disclosure of information to parents (authoritative), and not by parents' attempts to secure information (authoritarian; see Kerr and Stattin, 2000).

However, studies conducted in other ethnic and cultural contexts, cast doubt on whether the authoritative style of parenting is always associated with optimum adjustment of children and adolescents. On the one hand, authoritarian style (strictness but not warmth) has proven more effective in the USA with ethnic minority groups (Baumrind, 1972; Chao, 1994; Deater-Deckard and Dodge, 1997; Deater-Deckard et al., 1996; Wang and Phinney, 1998). Among African-American girls in the US, authoritarian parenting has been associated with independence and

assertiveness (Baumrind, 1972). Amid Hispanic adolescents, authoritarian parenting has been highly related to adolescent engagement, whereas this effect was relatively weak for other subgroups (Steinberg et al., 1992). Additionally, results from studies with poor family households questioned the idea of the authoritative style of parenting being always associated with optimum outcomes among adolescents (Hoff et al., 2002). Among low-educated parents in the US and Australia, authoritarian parenting was positively related to academic achievement (Leung et al., 1998). With Chinese children, authoritarian parenting has been associated with satisfaction on the parent-child relationship (Quoss and Zhao, 1995) and, in Arab societies authoritarian parenting has shown not harm on adolescents' mental health (Dwairy et al., 2006).

On the other hand, the so-called indulgent style (warmth but not strictness) has proven effective mainly in South European and Latin American countries (Alonso-Geta, 2012; Di Maggio and Zappulla, in press; García and Gracia, 2009, 2010; Gracia et al., 2012; Hindin, 2005; Kazemi et al., 2010; López-Romero et al., 2012; Turkel and Tezer, 2008; Wolfrat et al., 2003). Among Spanish families, indulgent parenting style was found to be as effective as the authoritative on or, sometimes, even better in all matters concerning self-esteem, psychological maladjustment, personal competence, and a broad-spectrum of problem behaviours (García and Gracia, 2009; García and Gracia, 2010). Additionally, Spanish studies reported similar findings in sexist attitudes, level of stress, and psychopathic personality of adolescents, and child-to-parent violence (Gámez-Guadix et al., 2012; Garaigordobil and Aliri, 2012; López-Romero et al., 2012; de la Torre et al., 2011). Similar findings were also reported in Spain when measuring directly the parents' child-rearing behaviour, and different grades of neighbourhood violence (Alonso-Geta, 2012; Gracia et al., 2012). Other studies in Portugal, Turkey, Italy, Germany, Brazil, Mexico, Iran and Philippines reported similar findings (Di Maggio and Zappulla, in press;

Hindin, 2005; Kazemi et al., 2010; Martínez and Gracia, 2008; Martínez et al., 2007; Rodrigues et al., 2013; Turkel and Tezer, 2008; Villalobos et al., 2004; Wolfradt et al., 2003). Thus, the optimal parenting depends on the cultural backgrounds where parent-child relationships would generally develop (Becoña et al., 2012a; Berns, 2011; Chao, 1994; Espino, 2013; García and Gracia, 2009; Sigelman and Rider, 2012; White and Schnurr, 2012). In South American countries (Brazil) or Southern European countries (Spain) strictness, firm control, and impositions in the socialization practices, seem to be perceived in a negative way, and possibly more attention is placed on the use of warmth, emotional support of the child, and involvement in children's socialization (García and Gracia, 2014; Kazemi et al., 2010; Martínez and Gracia, 2008; Rudy and Grusec, 2001; Villalobos et al., 2004).

No conclusive evidence has been found on which parenting style is more protective against adolescent substance use in the European context. However some recently emergent research indicates that indulgent parenting has proven effective in diverse Southern European countries (i.e., Spain, Portugal and Italy) as well as in Germany (Di Maggio and Zapulla, in press; García and Gracia, 2014; Rodrigues et al., 2013; Wolfradt et al., 2003); of them, only four Spanish studies measured adolescent substance use (García and Gracia, 2009, 2010; Gracia et al., 2012; Martínez et al., 2013).

This paper aims to examine what sort of parenting style (characterized by warmth and strictness) is more protective against adolescent substance use in different European countries. We could hypothesize, drawing from the literature review, that authoritative parenting style should be the most protective against adolescent substance use in Europe, and adolescents from authoritative families would show higher self-esteem, better school performance and less personal disturbances; with the exception of the Southern European countries, where the most

protective parenting style should be the indulgent one (characterized by warmth but not strictness). This also implies to examine whether the influence of a parenting style is affected by the different cultural and normative backgrounds. Additionally, three traditionally adolescent outcomes (self-esteem, school performance and personal disturbances) frequently associated with the use of substances (García and Gracia, 2009; Lamborn et al., 1991; Steinberg et al., 1994) are also measured.

2. METHOD

2.1. Participants and procedure

Our sampling frame comprised a complete list of secondary schools (students ranging between 11 and 19 years of age) in six European regions: Stockholm (Sweden), Liverpool (UK), Palma de Mallorca (Spain), Coimbra (Portugal), Ljubljana (Slovenia), and Prague (Czech Republic). The locations were chosen trying to cover different cultural sensibilities, attitudes and legal frameworks towards alcohol and other drugs; including populations from Northern, Central, Eastern, Western and Southern Europe.

An a priori power analysis was performed in order to determine the minimum sample size required in each location to detect with a power of .95 ($\alpha = .05$, $1 - \beta = .95$) a medium-small effect size ($f = .17$, estimated from ANOVAs of Lamborn (Lamborn et al., 1991) in an univariate *F*-test between the four parenting style groups (Faul et al., 2009; García et al., 2008), requiring a minimum sample size of 600 observations. A stratified and incidental school sample was used, taking into account public and private schools, school sizes and locations; in all cases in accordance with the actual distribution of schools in each region. A common protocol was prepared in each country for sampling strategy, and establishing the procedures for survey implementation, recording of incidents, handling and management of the questionnaires, and

inclusion in the database. A total of 78 schools participated. Procedures for obtaining consent differed between countries; in any case, participation consent was established according to national or regional requirements and complete confidentiality was assured.

Data was collected using a paper-and-pencil self-administered questionnaire, applied collectively to the whole course group during a regular class period. Survey took place in schools at the end of 2010 and the first quarter of 2011. At the end of the sampling process, there were 7,718 European adolescents included in the final analysis. Of these, 1,778 were Spanish (23.0%), 1,868 Portuguese (24.2%), 827 British (10.7%), 1,216 (15.8%) Czechs, 1,014 Slovenian (13.1%), and 1,015 Swedish (13.2%); ranged in age from 11 to 19 ($M = 14.63$ years, $SD = 1.9$ years), 2,364 (30.6%) were 13 years-old or younger, 2,610 (33.8%) were 14-15 years-old, and 2,744 (35.6%) were 16 years-old or older; including 3,774 men (48.9%) and 3,944 women. In all cities the sample size was always higher than planned, a power analysis (Faul et al., 2009; García et al., 2008) showed that it could detect (UK, $N = 827$, $\alpha = \beta = .05$) the expected effect size ($f = .17$) with a power that always exceeded the a priori fixed value ($1 - \beta = .99$). Nevertheless, a sensitivity power analysis with the entire sample ($N = 7,718$, $\alpha = \beta = .05$) indicated that main effects between four parenting styles can detect even a very small effect size ($f = .05$).

2.2. Ethical issues.

Participants' anonymity and confidentiality were guaranteed, and institutional ethical research approval, licenses and authorizations in each country to undertake the survey were obtained. Three ethical approvals were obtained from three University Committees (Liverpool John Moores University, Univerzita Karlova V from Prague and Karolinska Institutet from Stockholm).

2.3. Measures

Of interest in the present analyses were several demographic variables (European country, and adolescent sex and age), adolescent substance use and other three sets of additional outcome variables, and two parenting indexes that were used to construct the family types.

2.3.1. Substance use

Substance use was measured with a 15-items scale that tapped the frequency of adolescents' involvement with alcohol, cigarettes, marijuana, and other illegal drugs; obtaining scores for three specific factors: alcohol use, cigarettes use, and illegal drugs use (García and Gracia, 2009; Lamborn et al., 1991). Adolescents were asked about their alcohol use (Never, Once a month or less, Weekly, and Daily) and drunken episodes last month; and tobacco and illegal drugs use with eight items exploring different frequencies. Respondents provided information on a scale from 0 (false) to 1 (true). To compute each of the three person's scores, the responses of each factor are averaged and multiplied by 10, so that a higher factor scores represent higher substance use (factor scores may range from 0 to 10). Cronbach's alpha value was .77.

2.3.2. Other outcome variables

Three sets of outcome variables were also examined: self-esteem, school performance and personal disturbances (García and Gracia, 2009; Lamborn et al., 1991). *Self-esteem* was measured with the scale of Rosenberg (Rosenberg, 1965), a 10-item self-report measure of global self-esteem. It consists of 10 statements related to overall feelings of self-worth or self-acceptance (e.g., 'I feel that I'm a person of worth, at least on an equal plane with others'). Cronbach's alpha value for this scale was .85. *School performance* was measured with a 13-items self-report scale (e.g., 'I don't go to school sometimes because I don't want to').

Cronbach's alpha value for this scale was .88. *Personal disturbances* were measured with a 10-items self-report scale (e.g., 'Been in trouble with the police'), being the Cronbach's alpha value for this scale was .66. The participants responded in the three scales on a four-point scale ranging from 1 ('Strongly Disagree') to 4 ('Strongly Agree'). To compute a person's score, the responses were averaged (after inverted the worded items), so that higher scores represent higher self-esteem, school performance or personal disturbances respectively (factor scores may range from 1 to 4).

2.3.3. Parenting styles

Parental warmth was measured using an 8-items reduced version of the Warmth/Affection Scale (Rohner et al., 1978). Adolescents responded the two versions of the WAS, one assessing perceptions of their fathers, and one assessing perceptions of their mothers (or primary male or female caregivers). The WAS has been used in approximately 500 studies over the course of the last five decades in every continent. Recently, an ample meta-analysis has been published based on 66 studies reviewing worldwide research and including a variety of European samples from Czechoslovakia, Estonia, Romania, Spain and Sweden (see Rohner and Khaleque, 2003; Khaleque and Rohner, 2012). The WAS scale is a reliable measure of the extent to which the adolescent perceives his or her parents as loving, responsive, and involved (sample items: "Tries to help me when I am scared or upset", and "Talks to me about our plans and listens to what I have to say"). Cronbach alpha for this 8 item scale was .91 for the mother version, and .93 for the father version (correlation between both versions, $r = .57, p < .001$). *Parental strictness* was measured using the Parental Control Scale –PCS (Rohner, 2005; Rohner and Khaleque, 2003). Adolescents responded both to the mother and the father versions of the PCS. The PCS scale has been used across five culturally distinct populations (see Rohner and

Khaleque, 2003). The PCS scale assesses the extent to which the adolescent perceives a strict parental control on their behaviour (sample items: "Tells me exactly what time to be home when I go out", and "Gives me certain jobs to do and will not let me do anything else until they are done"). Cronbach alpha for this 13 item scale was .76 for the mother version, and .80 for the father version (correlation between both versions, $r = .62, p < .001$). In both scales, adolescents rated with a 4-point scale (1 = *almost never true*, 4 = *almost always true*) all items. Both parenting indexes measured family parenting behaviour (see Lamborn et al., 1991; Steinberg et al., 1994) so that higher scores represent a greater sense parental warmth and parental strictness (Rohner and Khaleque, 2003).

Following the examples of Lamborn (Lamborn et al., 1991) and Steinberg (2005), the four parenting styles –authoritative, indulgent, authoritarian, and neglectful– were defined with a media split (50th percentile) on each family parenting dimension –warmth and strictness– and examining the two variables simultaneously. Mother and father scores of warmth and strictness were averaged in two-parent households to obtain each family parenting dimension.

Authoritative families were those who scored above 50th percentile on both warmth and strictness, whereas neglectful families were below 50th percentile on both variables.

Authoritarian families were above 50th percentile on strictness but below 50th percentile on warmth. Indulgent families were above 50th percentile on warmth but below 50th percentile on strictness. Although differences in culture, ethnicity, social class, race, gender, and other such factors do not exert enough influence to override an apparently universal tendency for people everywhere to perceive WAS and PCS items in similar ways (Gomez and Rohner, 2011; Khaleque and Rohner, 2012; Rohner and Khaleque, 2003), following Garcia and Gracia (2009, 2010, 2014), we split the sample by country, sex and age groups because, generally, the means of

scales of these measures of parenting are not clearly equivalent for each group, and typically tests present specific normative scores by countries, sexes and age groups (Deater-Deckard et al., 2011; García et al., 2011; Musitu and Garcia, 2001).

2.4. *Plan of Analysis*

Three factorial multivariate analysis of variance (MANOVAs) were applied for each set of outcome variables (alcohol, tobacco, and illegal drugs, self-esteem, school performance and personal disturbances) with parenting style (authoritative, authoritarian, indulgent, and neglectful), European country (Sweden, United Kingdom, Spain, Portugal, Slovenia, and the Czech Republic), Adolescent sex (men vs. women), and Adolescent group of age (13 years-olds or younger, 14-15 year-olds, and 16 year-olds or older) as independent variables. Follow-up univariate *F* tests were conducted within the outcome variables that had multivariate significant overall differences, and significant results on the univariate tests were followed up with Bonferroni's comparisons between all possible pairs of means.

3. RESULTS

3.1. *Parenting style groups*

Table 1 provides full information on the sizes of each of the four parenting groups as well as each group's mean and standard deviation on both main parental dimensions' measures: warmth and strictness. Additional analyses showed that the two measures of parental dimensions, warmth and strictness, were modestly intercorrelated, $r = .18$, $R^2 = .032$, $p < .05$.

3.2. *Preliminary multivariate analyses*

Interaction effects in the three two-way MANOVAs were statistically significant for parenting style by country and parenting style by sex (Table 2). The univariate *F* test indicated that there were statistically significant interactions of parenting style by country for tobacco use,

$F(15, 7520) = 2.02, p < .05$, school performance, $F(15, 7520) = 7.88, p < .05$, and personal disturbances, $F(15, 7520) = 20.86, p < .05$. However, it was obtained a very similar pattern between different countries, except in Sweden (Figure 1) and Czech Republic (Figure 2), with very small variations between parenting styles, and in UK (Figure 3), where differences between parenting styles were major. For example, in Czech Republic where tobacco use was the higher, adolescents from indulgent and authoritative homes always had lower tobacco use than those from authoritarian and neglectful homes. While in the UK, where tobacco use was the lower, a similar pattern can be observed since adolescents from indulgent and authoritative homes always had lower tobacco use than those from authoritarian and neglectful homes (figure 1). As well, univariate F test indicated that there were statistically significant interactions of parenting style by sex for personal disturbances, $F(15, 7536) = 10.85, p < .05$, but also it was obtained a very similar pattern between different sexes (Figure 4). Although personal disturbances were always higher for females, male and female adolescents from indulgent and authoritative homes always showed lower personal disturbances than male and female adolescents from authoritarian and neglectful homes.

3.3. Main univariate effects for sex, age and country

Univariate main effects for European country (Table 3), child sex (Table 4), and child age (Table 5) reached significance in relation to all the variables included in this study.

3.4. Main univariate effects for parenting styles

It is interesting that both adolescents who characterized their parents as authoritative or those who characterized them as indulgent scored more positively than did adolescents from authoritarian and neglectful families (see Table 6) in all the variables measured (use of alcohol, tobacco and illegal drugs, and self-esteem, school performance and personal disturbances).

Besides, indulgent families obtained small higher scores in self-esteem and school performance than authoritative families, but these ones performed a little better in the substance use scores.

4. DISCUSSION

This paper analyzes the relationships between parenting styles and adolescent substance use using a two-dimension four-typology model of parenting styles with a sample of European adolescents. Interestingly, both the authoritative – warmth and strictness- parenting style and the indulgent –warmth but not strictness- were associated with lower levels of substance use than authoritarian and neglectful parenting styles, performing similarly in Southern European countries (Spain and Portugal) as well as in the other European countries assessed (Sweden, United Kingdom, Slovenia, and the Czech Republic). While, the neglectful parenting style - neither warmth nor strictness- and the authoritarian parenting style -strictness but not warmth-- were associated to the highest level of tobacco and illegal drug use, being alcohol use even higher for neglectful than authoritarian parenting style.

Although a certain number of studies, conducted mainly in Anglo-Saxon contexts with European-American samples, continually suggest that the authoritative parenting style or even, for certain minorities, the authoritarian parenting style, both sharing strictness as a characteristic, have the best positive effect in the area of drug use prevention (Bahr and Hoffman, 2010; Lamborn et al., 1991; Montgomery et al., 2008; Steinberg et al., 1994), stressing that parental firm control, or strictness, may act as a prevention to deviance (Lamborn et al., 1991; Maccoby and Martin, 1983; Steinberg et al., 1994); our finding on indulgent parenting style show it to be as protective as the authoritative style on adolescent substance use in the European context.

Taking into consideration that the level of drug use for the different substances differs among explored countries, and that the presence of the diverse parenting styles is not distributed

in the same way, these findings are still more interesting. Because this could imply that parenting styles relationship with the variables considered is the same independently of the country considered.

Even more, considering other additional young people outcomes, commonly related in previous studies with substance use, we found that the indulgent style was related to the lowest level of personal disturbances (being in trouble with the police), better self-esteem, and superior school performance than the authoritative parenting style, even though followed by it. On the contrary, the lowest level of self-esteem was related to the authoritarian parenting style, showing also the highest level of personal disturbances, while the lowest level of school performance was associated to the neglectful parenting style.

Therefore, both parenting styles sharing warmth as a characteristic demonstrated a better positive effect in the area of substance use prevention as well as in the area of personal disturbances prevention, in correspondence with other several studies (García and Gracia, 2009, 2010; Lamborn et al., 1991; Maccoby and Martin, 1983; Steinberg et al., 1994). Furthermore, indulgent parenting style is related to a higher self-esteem and school performance level than authoritative parenting style, or the two other parenting styles assessed.

Hence, from the global perspective of personal health, our findings support the idea that the indulgent style performs as the optimum parenting style in the European context, or at least as well as the authoritative style. These results confirm previous emergent research carried out in several cultural contexts (Hindin, 2005; Kazemi et al., 2010; Wolfradt et al., 2003), mainly in Southern European and Latin American countries (Alonso-Geta, 2012; Garaigordobil and Aliri, 2012; García and Gracia, 2009, 2010; López-Romero et al., 2012; Rorigues et al., 2013; Villalobos et al., 2004) in which adolescents from indulgent families obtained equal or even

better scores, for the different indicators of psychosocial adjustment, than adolescents from authoritative families. Thus, current findings add knowledge to a growing body of empirical research questioning the idea of the authoritative style being always related to the best psychosocial adjustment for adolescents (Lamborn et al., 1991; Maccoby and Martin, 1983; Steinberg et al., 1989), while supporting the importance of using practices such as parental warmth and bidirectional communication for the optimal psychosocial adjustment on adolescents and the prevention of deviances (García and Gracia, 2009, 2010; Kerr and Stattin, 2000; Martínez and García, 2008; Martínez et al., 2007; de la Torre et al., 2011; White and Schnurr, 2012;).

In sum, this growing body of empirical research indicates that warmth and communication are key items when characterizing optimum parenting. The combination of high levels of parental warmth and involvement with low levels of strictness appears in this study to be the best parenting strategy in the European context. These results are consistent with previous studies in Southern European countries (Spain and Portugal). In these cultures, strictness and impositions in the socialization practices seem to be perceived in a negative way (Garcia and Gracia, 2009, 2010, 2014; Martínez and García, 2008; Rudy and Grusec, 2001; White and Schnurr, 2012). As Sorkhabi (2005) points out, more research is needed before conclusions can be drawn on the extent to which culture constructs, such as individualism and collectivism, explain the effects on child development. In fact, the optimal parenting style will depend on the cultural backgrounds where parent-child relationships takes place (Becoña et al., 2012a; Berns, 2011; Chao, 1994; Espino, 2013; García and Gracia, 2009; Sigelman and Rider, 2012; White and Schnurr, 2012), on the parenting socioeconomic status (Leung et al., 1998) and even in the new social situations (Kazemi et al., 2010).

At the same time, this study gives support to the possibility of implementing similar strategies in family prevention, given that same parenting styles seem to be working in the same direction in different European backgrounds, even though participant areas in this research had different levels of substance use and presence of parenting styles had different frequencies around participant countries. The use of family prevention programs in Europe based on established risk factors is an urgent need, because most of them do not address identified risk or protective factors (Lloret et al, 2013).

Finally, this study has strengths and limitations. The use of a two-dimension four-styles model to assess parenting, the variety of European countries explored, and the large sample size, offers a different but complementary approach to the ongoing debates examining the relationship between drug use and parenting styles, in the context of other outcomes. As for the limitations, the current study was cross-sectional, which precluded the possibility to draw firm conclusions on issues of directionality. The classification of the families within one of the four parenting styles was based on the responses of the adolescents. Although we have used large samples, however, there are not at all representative of the countries where the study was conducted. Our findings should then be seen as preliminary evidence for the European context and will need to be replicated using other data sources from different adolescents and samples from other countries. Particularly, more research is need from Northern Europe (e.g., UK and Sweden) where these findings have not been documented before including more outcomes (Garcia and Gracia, 2014) and different parenting socioeconomic status (Leung et al., 1998).

In conclusion, we found that both authoritative and indulgent parenting style were equally protective against adolescent substance use in the European context, but from a more personal health global perspective the indulgent style appears to be the optimum parenting style

within the European context. Additional studies are needed to further explore the mechanisms behind this association.

Accepted Manuscript

REFERENCES

- Adalbjarnardottir, S., Hafsteinsson, L.G., 2001. Adolescents' perceived parenting styles and their substance use: Concurrent and longitudinal analyses. *J. Res. Adolesc.* 11, 401-23.
- Alati, R., Maloney, E., Hutchinson, D.M., Najman, J.M., Mattick, R.P., Bor, W., Williams, G.M., 2010. Do maternal parenting practices predict problematic patterns of adolescent alcohol consumption? *Addiction* 105, 872-80.
- Alonso-Geta, P.M.P., 2012. Parenting style in Spanish parents with children aged 6 to 14. *Psicothema.* 24, 371-376.
- Aunola, K., Stattin, H., Nurmi, J.E., 2000. Parenting styles and adolescents' achievement strategies. *J. Adolesc.* 23, 205-222.
- Bahr, S.J., Hoffmann, J.P., 2010. Parenting style, religiosity, peers, and adolescent heavy drinking. *J. Stud. Alcohol Drugs* 71, 539-543.
- Baumrind, D., 1972. An exploratory study of socialization effects on Black children: some Black-White comparisons. *Child Dev.* 43, 261-267.
- Becoña, E., Martínez, U., Calafat, A., Juan, M., Duch, M., Fernández-Hermida, J. R., 2012a. ¿Cómo influye la desorganización familiar en el consumo de drogas de los hijos? Una revisión. *Adicciones.* 24, 253-268.
- Becoña, E., Martínez, U., Calafat, A., Juan, M., Fernández-Hermida, J.R., Secades-Villa, R., 2012b. Parental styles and drug use: a review. *Drug Educ. Prev. Policy* 19, 1-10.

- Berns, R.M., 2011. *Child, Family, School, Community: Socialization and Support*. Cengage, Wadsworth, NY.
- Cano, A.J., Solanas, S.E., Marí-Klose, M., Marí-Klose, P., 2012. Psychosocial risk factors in adolescent tobacco use: negative mood-states, peer group and parenting styles. *Adicciones* 24, 309-317.
- Chao, R.K., 1994. Beyond parental control and authoritarian parenting style: understanding Chinese parenting through the cultural notion of training. *Child Dev.* 65, 1111-1119.
- Cohen, D.A., Rice, J., 1997. Parenting styles, adolescent substance use, and academic achievement. *J. Drug Educ.* 27, 199-211.
- Conway, K.P., Vullo, G.C., Nichter, B., Wang, J., Compton, W.M., Iannotti, R.J., Simons-Morton, 2013. Prevalence and patterns of polysubstance use in a nationally representative sample of 10th Graders in the United States. *J. Adolesc. Health* 52, 716-723.
- Darling, N., Cumsille, P., 2003. Theory, measurement, and methods in the study of family influences on adolescent smoking. *Addiction* 98, 21-36.
- Darling, N., Steinberg, L., 1993. Parenting style as context: an integrative model. *Psychol. Bull.* 113, 487-96.
- Deater-Deckard, K., Dodge, K.A., 1997. Externalizing behavior problems and discipline revisited: nonlinear effects and variation by culture, context, and gender. *Psychol. Inquiry* 8, 161-1675.

- Deater-Deckard, K., Dodge, K.A., Bates, J.E., Pettit, G.S., 1996. Physical discipline among African American and European American mothers: links to children's externalizing behaviors. *Dev. Psychol.* 32, 1065-1072.
- Deater-Deckard, K., Lansford, J.E., Malone, P.S., Peña Alampay, L., Sorbring, E., Bacchini, D., Bombi, A.S., Bornstein, M.H., Chang, L., Di Giunta, L., Dodge, K.A., Oburu, P., Pastorelli, C., Skinner, A.T., Tapanya, S., Uribe Tirado, L., Zelli, A., Al-Hassan, S.M., 2011. The association between parental warmth and control in thirteen cultural groups. *J. Fam. Psychol.* 25, 790-794.
- Di Maggio, R., Zappulla, C., in press. Mothering, fathering, and Italian adolescents' problem behaviors and life satisfaction: dimensional and typological approach. *J. Child Fam. Stud.*
- Dwairy, M., Achoui, M., Abouserfe, R., Farah, A., 2006. Parenting styles, individuation, and mental health of Arab adolescents: a third cross-regional research study. *J. Cross Culture Psychol.* 37, 262-272.
- Espino, J.M.G., 2013. Two sides of intensive parenting: present and future dimensions in contemporary relations between parents and children in Spain. *Childhood* 20, 22-36.
- European Monitoring Centre for Drugs and Drug Addiction. 2012. Annual Report 2012. EMCDDA, Lisbon.
- Faul, F., Erdfelder, E., Buchner, A., Lang, A.G., 2009. Statistical power analyses using G*Power 3.1: tests for correlation and regression analyses. *Behav. Res. Methods* 41, 1149-1160.

- Fernández-Hermida, J.R., Calafat, A., Becoña, E., Tsertsvadze, A., Foxcroft, D.R., 2012. Assessment of generalizability, applicability and predictability (GAP) for evaluating external validity in studies of universal family-based prevention of alcohol misuse in young people: systematic methodological review of randomized controlled trials. *Addiction* 107, 1570-1579.
- Gámez-Guadix, M., Jaureguizar, J., Almendros, C., Carrobles, J.A.K.M., 2012. Parenting styles and child to parent violence in Spanish population. *Behav. Psychol.* 20, 585-602.
- Garaigordobil, M., Aliri, J., 2012. Parental socialization styles, parents' educational level, and sexist attitudes in adolescence. *Span. J. Psychol.* 15, 592-603.
- García F., Gracia E., 2009. Is always authoritative the optimum parenting style? Evidence from Spanish families. *Adolescence* 44, 101-131.
- García, F., Gracia, E., 2010. ¿Qué estilo de socialización parental es el idóneo en España? Un estudio con niños y adolescentes de 10 a 14 años. *Infancia y Aprendizaje* 33, 365-384.
- García, F., Gracia, E., 2014. The indulgent parenting style and developmental outcomes in South European and Latin-American countries. In: Selin, H., (Ed.), *Parenting Across Cultures: Childrearing, Motherhood and Fatherhood in Non-Western Cultures* Springer, Dordrecht, Netherlands, Vol. 7, pp. 419-433.
- García, J.F, Musitu, G., Riquelme, E., Riquelme, P., 2011. A confirmatory factor analysis of the "Autoconcepto Forma 5" questionnaire in young adults from Spain and Chile. *Span. J. Psychol.* 14, 648-658

- García, J.F., Pascual, J., Frias, M.D., Van Krunkelsven, D., Murgui, S., 2008. Design and power analysis: n and confidence intervals of means. *Psicothema*. 20, 933-938.
- Gomez, R., Rohner, R.P., 2011. Tests of factor structure and measurement invariance in the United States and Australia using the adult version of the Parental Acceptance- Rejection Questionnaire. *Cross Cultural Res.* 45, 267-285
- Gracia, E., Fuentes, M.C., García, F., Lila, M., 2012. Perceived neighborhood violence, parenting styles, and developmental outcomes among Spanish adolescents. *J. Community Psychol.* 40, 1004-1021.
- Harakeh, Z., Scholte, R.H.J., De Vries, H., Engels, R.C.M.E., 2005. Parental rules and communication: their association with adolescent smoking. *Addiction* 100, 862-870.
- Hindin, M.J., 2005. Family dynamics, gender differences and educational attainment in Filipino adolescents. *J. Adolesc.* 28, 299-316.
- Hoff, E., Laursen, B., Tardif, T., 2002. Socioeconomic status and parenting. In: Bornstein M.H. (Ed.), *Handbook of parenting: Biology and Ecology of Parenting*. Erlbaum, Mahwah, NJ, pp. 231-252.
- Hummel, A., Shelton, K.H., Heron, J., Moore, L., van den Bree, M.B.M., 2013. A systematic review of the relationships between family functioning, pubertal timing and adolescent substance use. *Addiction* 108, 487-496.

- Im-Bolter, N., Zadeh, Z.Y., Ling, D., 2013. Early parenting beliefs and academic achievement: the mediating role of language. *Early Child. Dev. Care* 183, 1811-1826.
- Kazemi, A., Ardabili, H.E., Solokian, S., 2010. The association between social competence in adolescents and mothers' parenting style: a cross sectional study on Iranian girls. *Child Adolesc. Soc. Work J.* 27, 395-403.
- Kerr, M., Stattin, H., 2000. What parents know, how they know it, and several forms of adolescent adjustment: further support for a reinterpretation of monitoring. *Dev. Psychol.* 36, 366-380.
- Khaleque, A., Rohner, R.P., 2012. Pancultural associations between perceived parental acceptance and psychological adjustment of children and adults: a meta-analytic review of worldwide research. *J. Cross Culture Psychol.* 43, 784-800.
- Kritzas, N., Grobler, A.A., 2005. The relationship between perceived parenting styles and resilience during adolescence. *J. Child Adolesc. Mental Health* 17, 1-12.
- Lamborn, S.D., Mounts, N.S., Steinberg, L., Dornbusch, S.M., 1991. Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child Dev.* 62, 1049-1065.
- Leung, K., Lau, S., Lam, W.L., 1998. Parenting styles and academic achievement: a cross-cultural study. *Merrill Palmer Q.* 44, 157-172.

- Lloret, D., Espada, J.P., Cabrera, V., Burkhart, G., 2013. Family prevention of drug use in Europe: a critical review of EDDRA programs. *Adicciones* 25, 226-234.
- López-Romero, L., Romero, E., Villar, P., 2012. Relationships between parenting styles and psychopathic traits in childhood. *Behav. Psychol.* 20, 603-623.
- Maccoby, E.E., Martin, J.A., 1983. Socialization in the context of the family: parent-child interaction. In: Mussen P.H. (Ed.), *Handbook of Child Psychology*. Wiley, New York, pp. 1-101.
- Martínez, I., Fuentes, M.C., García, F., Madrid, I., 2013. The parenting style as protective or risk factor for substance use and other behavior problems among Spanish adolescents. *Adicciones* 25, 235-242.
- Martínez, I., García, J.F., 2008. Internalization of values and self-esteem among Brazilian teenagers from authoritative, indulgent, authoritarian, and neglectful homes. *Adolescence* 43, 13-29.
- Martínez, I., García, J.F., Yubero, S., 2007. Parenting styles and adolescents' self-esteem in Brazil. *Psychol. Rep.* 100, 731-745.
- Montgomery, C., Fisk, J.E., Craig, L., 2008. The effects of perceived parenting style on the propensity for illicit drug use: the importance of parental warmth and control. *Drug Alcohol Rev.* 27, 640-649.

- Quoss, B., Zhao, W., 1995. Parenting styles and children's satisfaction with parenting in China and the United States. *J. Comp. Fam. Stud.* 26, 265-280.
- Rodrigues, Y., Veiga, F., Fuentes, M., García, F., 2013. Parenting and adolescents' self-esteem: the Portuguese context. *Rev. Psicodidac.* 18, 395-416.
- Rohner, R.P., 2005. Parental Acceptance-Rejection/Control Questionnaire (PARQ/Control). In: Rohner, R.P., Khaleque, A. (Eds.) *Handbook for the Study of Parental Acceptance and Rejection.* , Rohner Research Publications, Storrs, CT. pp. 137-86.
- Rohner, R.P., Saavedra, J., Granum, E.O., 1978. Development and validation of the Parental Acceptance Rejection Questionnaire: test manual. *JSAS* 8, 17-48.
- Rohner, R.P., Khaleque, A., 2003. Reliability and validity of the parental control scale: a meta-analysis of cross-cultural and intracultural studies. *J. Cross Cult. Psychol.* 34, 643-649.
- Rosenberg, M., 1965. *Society and the Adolescent Self-image.* Princeton University Press, Princeton, NJ.
- Rudy, D., Grusec, J.E., 2001. Correlates of authoritarian parenting in individualist and collectivist cultures and implications for understanding the transmission of values. *J. Cross Cult. Psychol.* 32, 202-212.
- Sigelman, C.K., Rider, E.A., 2012. *Life-span Human Development.* Wadsworth Publishing Company, Belmont, CA.

- Sorkhabi, N. (2005). Applicability of Baumrind's parent typology to collective cultures: Analysis of cultural explanations of parent socialization effects. *Int J Behav Develop.* 29, 552-563.
- Steinberg, L., 2005. Psychological control: Style or substance? In: Smetana J.G., (Ed.), *New directions for child and adolescent development: Changes in parental authority during adolescence.* Jossey-Bass, San Francisco, pp. 71-78.
- Steinberg, L., Blatt-Eisengart, I., Cauffman, E., 2006. Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful homes: A replication in a sample of serious juvenile offenders. *J Res Adolesc.* 16, 47-58.
- Steinberg, L., Dornbusch, S.M., Brown, B.B., 1992. Ethnic-differences in adolescent achievement: An ecological perspective. *Am Psychol.* 47, 723-729.
- Steinberg, L., Elmen, J.D., Mounts, N.S., 1989. Authoritative parenting, psychosocial maturity, and academic-success among adolescents. *Child Dev.* 60, 1424-1436.
- Steinberg, L., Lamborn, S.D., Darling, N., Mounts, N.S., Dornbusch, S.M., 1994. Over-Time changes in adjustment and competence among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child Dev.* 65, 754-770.
- Thompson, E.A., Connelly, C.D., Thomas-Jones, D., Eggert, L.L., 2013. School difficulties and co-occurring health risk factors: substance use, aggression, depression, and suicidal behaviors. *J. Child Adolesc. Psychiatr. Nurs.* 26, 74-84.

- de la Torre, M.J., Casanova, P.F., García, M.C., Carpio, M.V., Cerezo, M.T., 2011. Parenting styles and stress in students of compulsory secondary education. *Behav. Psychol.* 19, 577-590.
- Turkel, Y.D., Tezer, E., 2008. Parenting styles and learned resourcefulness of Turkish adolescents. *Adolescence* 43, 143-152.
- Villalobos, J.A., Cruz, A.V., Sánchez, P.R., 2004. Estilos parentales y desarrollo psicosocial en estudiantes de Bachillerato [Parental styles and psychosocial development in High-School students]. *Rev Mex Psicol.* 21, 119-129.
- Wang, C.H.C., Phinney, J.S., 1998. Differences in child rearing attitudes between immigrant Chinese mothers and Anglo-American mothers. *Early Dev. Parent.* 7, 181-189.
- White, J., Schnurr, M.P., 2012. Developmental psychology. In: Leong, F.T.L., Pickren, W.E., Leach, M.M., Anthony, J.M. (Eds.) *Internationalizing the Psychology Curriculum in the United States*. Springer Science+Business Media, New York, NY. pp. 51-73.
- Wolfradt, U., Hempel, S., Miles, J.N.V., 2003. Perceived parenting styles, depersonalisation, anxiety and coping behaviour in adolescents. *Pers. Individ. Differ.* 34, 521-532.

FIGURE LEGENDS

Figure 1. Means of parenting style by European country for tobacco use

Figure 2. Means of parenting style by European country for school performance

Figure 3. Means of parenting style by European country for personal disturbances

Figure 4. Means of parenting style by child sex for personal disturbances

Accepted Manuscript

Table 1

Numbers of Cases in Parenting Style Groups, and Mean Scores and Standard Deviations on Main Measures of Parental Dimensions

	Total	Indulgent	Authoritative	Authoritarian	Neglectful
Frequency	7718	1700	2210	1664	2144
Percent	100.0	22.0	28.6	21.6	27.8
Warmth:					
Mean	3.29	3.74	3.76	2.86	2.79
SD	0.61	0.21	0.22	0.50	0.52
Strictness:					
Mean	2.69	2.36	3.05	3.00	2.35
SD	0.46	0.34	0.29	0.29	0.34

Table 2

Three Two-way MANOVAs for Each Set of Outcomes: Alcohol, Tobacco, and Illegal Drugs, Self-Esteem, School Performance and Personal Disturbances

Source of variation	Wilks' Lambda	<i>F</i>	Hypothesis <i>df</i>	Error <i>df</i>	<i>p</i>
(A) Parenting style	.895	47.07	18	21256.12	<.001
(B) Country	.269	389.96	30	30062.00	<.001
A × B	.974	2.24	90	42268.05	<.001
(A) Parenting style	.897	46.58	18	21301.37	<.001
(C) Sex	.928	96.75	6	7531.00	<.001
A × C	.993	2.80	18	21301.37	<.001
(A) Parenting style	.898	46.03	18	21290.06	<.001
(D) Age	.813	137.12	12	15054.00	<.001
A × D	.994	1.36	36	33056.13	.072

Table 3

Means, (Standard Deviations), F Values, and Post Hoc Procedure of Bonferroni^s for the European Countries across Alcohol, Tobacco, and Illegal Drugs, Self-Esteem, School Performance and Personal Disturbances

	Sweden	United Kingdom	Spain	Portugal	Slovenia	Czech Republic	<i>F</i> (3, 7518)
Alcohol use	1,86 (2,31) ³	2,65 (2,99) ²	2,05 (2,32) ³	2,41 (2,50) ²	1,10 (1,96) ⁴	3,43 (2,60) ¹	69,79 ***
Tobacco use	3,99 (4,90) ³	2,94 (4,56) ⁴	4,59 (4,98) ²	4,67 (4,99) ²	3,03 (4,60) ⁴	7,14 (4,52) ¹	91,31 ***
Illegal drugs use	0,20 (0,70) ⁴	0,23 (0,91) ³	0,32 (0,63) ²	0,15 (0,55) ⁴	0,12 (0,53) ⁴	0,41 (0,73) ¹	25,99 ***
Self-esteem	3,03 (0,46) ¹	2,80 (0,53) ²	3,05 (0,51) ¹	2,97 (0,51) ¹	3,19 (0,50) ¹	2,77 (0,45) ²	67,49 ***
School performance	3,26 (0,38) ²	3,16 (0,46) ³	3,43 (0,35) ¹	3,31 (0,34) ²	3,39 (0,32) ¹	1,79 (0,36) ⁴	3514,73 ***
Personal disturbances	1,40 (1,64) ²	1,98 (1,85) ¹	1,54 (1,60) ²	1,58 (1,56) ²	1,17 (1,56) ²	1,96 (1,74) ¹	20,86 ***

^s $\alpha = .05; 1 > 2 > 3 > 4.$

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 4

Means, (Standard Deviations), *F* Values, and Post Hoc Procedure of Bonferroni^s for the Child Sex across Alcohol, Tobacco, and Illegal Drugs, Self-Esteem, School Performance and Personal Disturbances

	Male	Female	<i>F</i> (1, 7536)
Alcohol use	2,43 (2,63)	2,26 (2,49)	8,18 **
Tobacco use	4,67 (4,99)	4,63 (4,99)	0,05
Illegal drugs use	0,29 (0,77)	0,21 (0,65)	22,19 ***
Self-esteem	3,06 (0,49)	2,85 (0,52)	361,25 ***
School performance	3,07 (0,69)	3,11 (0,67)	4,13 *
Personal disturbances	1,41 (1,62)	1,86 (1,68)	146,19 ***

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 5

Means, (Standard Deviations), *F* Values, and Post Hoc Procedure of Bonferroni^s for Age Groups across Alcohol, Tobacco, and Illegal Drugs, Self-Esteem, School Performance and Personal Disturbances

	< 14	14 - 15	> 16	<i>F</i> (3, 7532)
Alcohol use	0,95 (1,87) ³	2,40 (2,49) ²	3,47 (2,55) ¹	714,84 ***
Tobacco use	2,41 (4,28) ³	5,01 (5,00) ²	6,21 (4,85) ¹	405,74 ***
Illegal drugs use	0,05 (0,46) ³	0,23 (0,73) ²	0,42 (0,81) ¹	176,45 ***
Self-esteem	3,00 (0,51) ¹	2,92 (0,51) ²	2,95 (0,53) ²	12,20 ***
School performance	3,16 (0,68) ¹	3,07 (0,68) ²	3,05 (0,67) ²	16,30 ***
Personal disturbances	1,21 (1,50) ³	1,70 (1,69) ²	1,93 (1,69) ¹	129,65 ***

^s $\alpha = .05$; 1 > 2 > 3.

* $p < .05$, ** $p < .01$, *** $p < .001$.

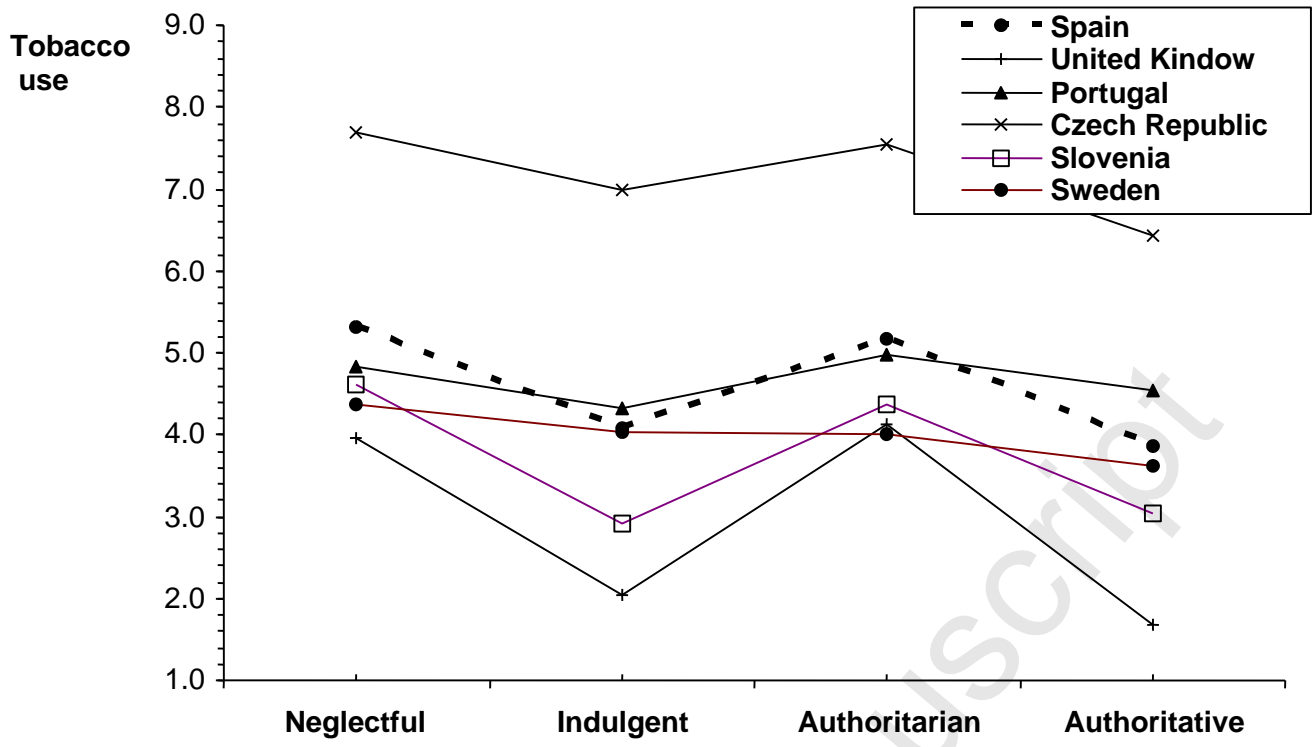
Table 6

Means, (Standard Deviations), *F* Values, and Post Hoc Procedure of Bonferroni^s for the Four Parenting Style Groups across Alcohol, Tobacco, and Illegal Drugs, Self-Esteem, School Performance and Personal Disturbances

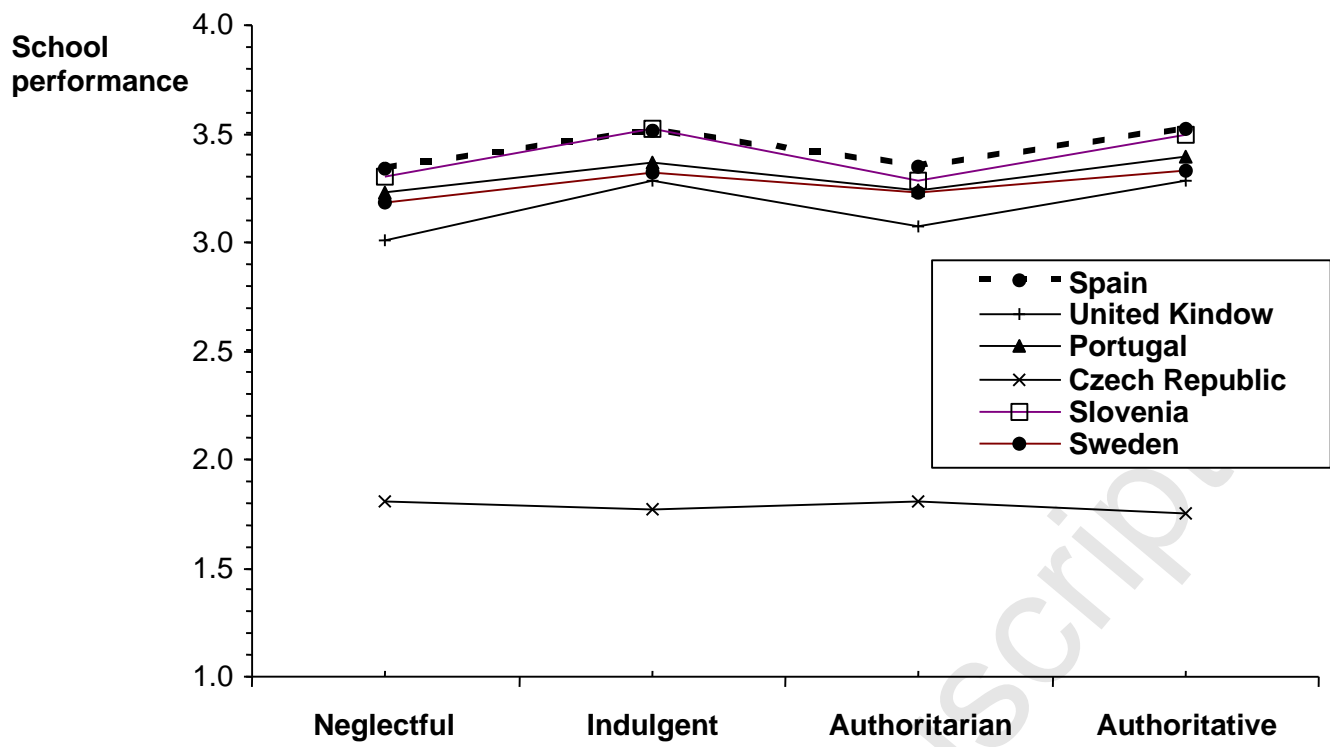
	Indulgent	Authoritative	Authoritarian	Neglectful	<i>F</i> (3, 7520)
Alcohol use	2.18 (2.45) ³	2.00 (2.42) ³	2.47 (2.59) ²	2.71 (2.70) ¹	32.56 ***
Tobacco use	4.15 (4.93) ²	4.11 (4.92) ²	5.10 (5.00) ¹	5.25 (4.99) ¹	32.33 ***
Illegal drugs use	0.20 (0.55) ²	0.19 (0.60) ²	0.27 (0.75) ¹	0.33 (0.87) ¹	19.32 ***
Self-esteem	3.12 (0.48) ¹	3.07 (0.49) ²	2.76 (0.52) ⁴	2.86 (0.50) ³	206.55 ***
School performance	3.18 (0.67) ¹	3.14 (0.72) ²	3.05 (0.64) ³	2.99 (0.67) ⁴	85.52 ***
Personal disturbances	1.31 (1.45) ²	1.32 (1.51) ²	2.06 (1.72) ¹	1.92 (1.81) ¹	106.36 ***

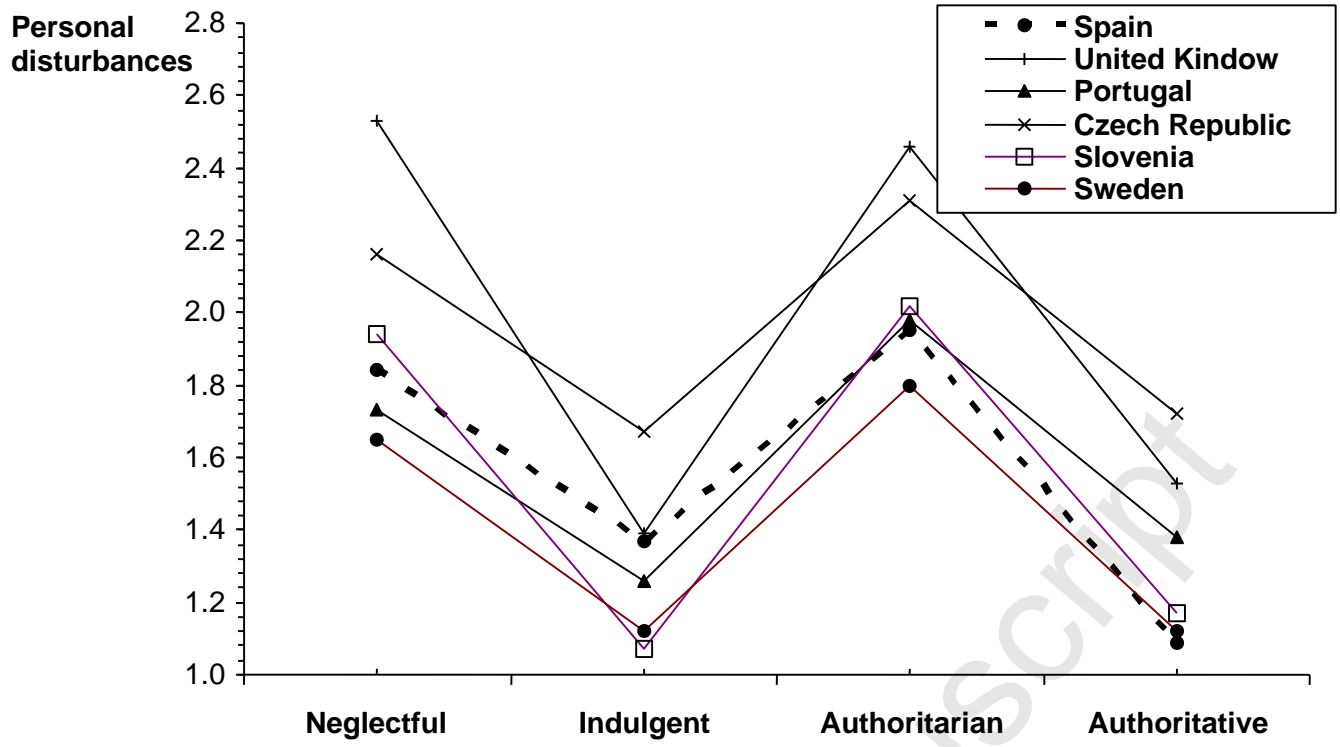
^s $\alpha = .05$; 1 > 2 > 3 > 4.

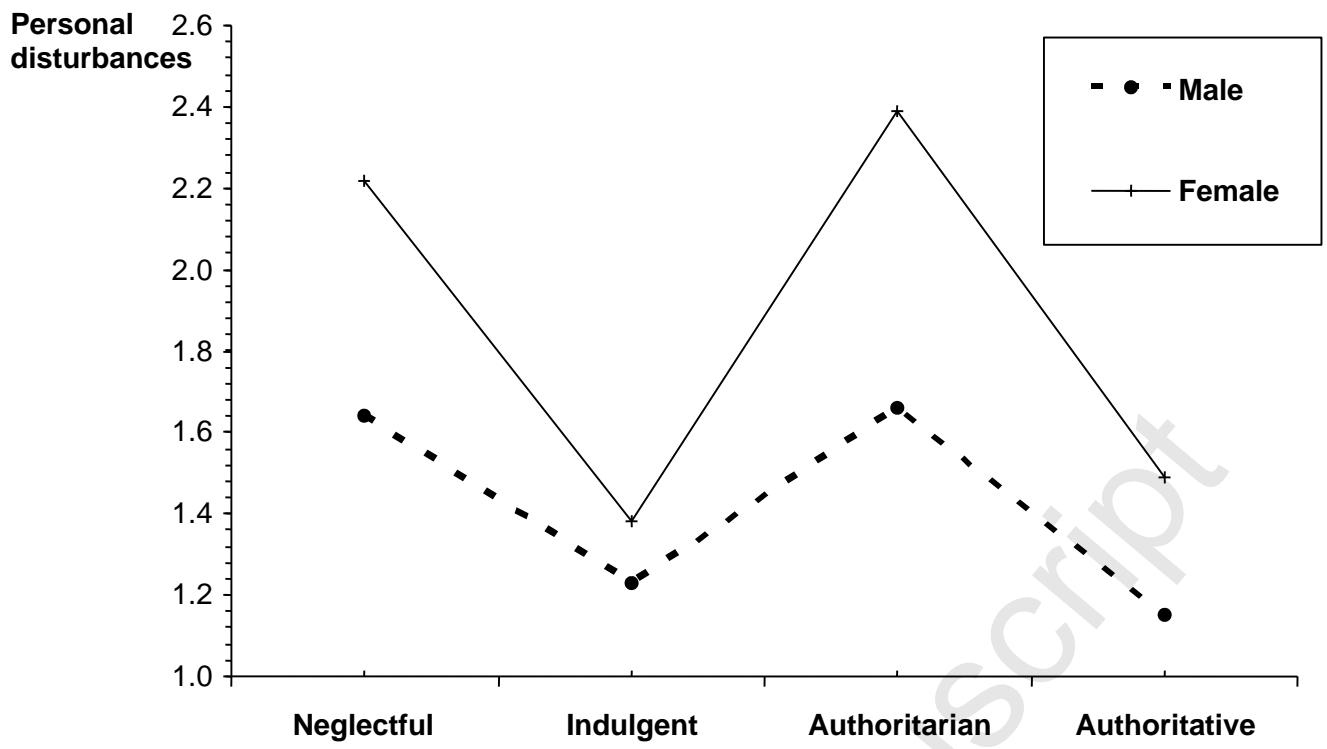
* $p < .05$, ** $p < .01$, *** $p < .001$.



Accepted Manuscript







Accepted Manuscript

Role of funding Source.

This study has been financed by the European Commission, Directorate General Justice, grant JLS/DPIP/2008-2/112 (The European Commission has no further responsibility in the research) and also by the Spanish Delegación del Gobierno para el Plan Nacional sobre Drogas (Government Delegation for the National Drug Plan), Resolución 12 de julio de 2013 y Resolución 1 de octubre de/2013.

Contributors.

Amador Calafat and Montse Juan designed the study and the protocol. Elisardo Becoña managed the literature searches and summaries of the previous related work, with the assistance of Jose Ramón Fernández-Hermida and Fernando Garcia. The statistical analysis was mainly done by Fernando Garcia, who, with the assistance of Amador Calafat wrote the first draft of the manuscript. All authors contributed to and have approved the final manuscript.

Conflict of interest.

None declared.

Acknowledgments.

This research was part of the *European Family Empowerment project*, funded by the European Commission, Directorate General Justice, JLS/DPIP/2008-2/112.