



Stability and change in longitudinal patterns of antisocial behaviors: The role of social and emotional competencies, empathy, and morality

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Abstract

Studies show that different types of antisocial behaviors share similar risk and protective factors related to particular social, emotional and moral competencies. Nevertheless, little is known about the longitudinal relation of social, emotional and moral competencies with patterns of antisocial behaviors in youth. The present study aimed to discover the longitudinal relations between social and emotional competencies, empathy, moral emotions, moral disengagement, and perceived moral disengagement induced by parents, and the patterns of antisocial behaviors and change in these patterns over time. A sample of 898 Spanish students aged between 9 and 17 was followed up for one year. Self-reported data were analyzed using latent transition analyses and multinomial regressions. Results showed that age, several mechanisms of moral disengagement, perceived parental moral disengagement induction, and several social and emotional competencies predicted offenders outside of school and highly antisocial and victimized patterns, including their stability over time. Moreover, males at early ages and perceived parental moral disengagement induction predicted the high bullying victimization pattern. Being a male, with high victim dehumanizing and blaming, predicted stability of the high bullying victimization pattern. Being a male, early ages, and low responsible decision-making predicted changes from the high bullying victimization pattern to the low antisocial pattern. Results are discussed emphasizing the need to conduct prevention and intervention programs from a comprehensive perspective promoting social, emotional and moral competencies. This study could have useful implications for prevention and intervention focused on decreasing risk and increasing protective factors.

Keywords Patterns of antisocial behaviors · Social, emotional and moral competencies · Risk and protective factors · Longitudinal study

The prevention of antisocial behavior is one of the greatest challenges facing modern societies. In the last decades, research on antisocial behaviors has been very fruitful and has advanced knowledge regarding different factors that increase risk or protect individuals from involvement in antisocial behaviors (Farrington et al., 2016b; Zych et al., 2019b). Moreover, literature suggests that antisocial behaviors have peculiarities (e.g., some behaviors may be dangerous for oneself, while others may put people in situations where they might be harmed) that must be considered when designing prevention and intervention programs (see Moffitt, 1993). At the same time, research suggests that many risk

and protective factors for different antisocial behaviors are related to particular levels of social, emotional and moral competencies (Arce et al., 2011; Farrington et al., 2016b; Gómez-Ortiz et al., 2017; Zych et al., 2019b). Nevertheless, longitudinal relations of social, emotional and moral competencies with patterns of antisocial behaviors still need to be investigated more.

Antisocial behaviors refer to a wide variety of behaviors (including aggression, violence, theft, vandalism, truancy, substance use, among others) that transgress moral and societal norms (Rutter et al., 1998). There is a long tradition of research on life-course development, providing clear evidence that antisocial behaviors increase during adolescence more than in any other period of life. Most of the criminological studies indicated a general age-crime curve at the between-individual level for most types of offending, that increases in early adolescence to reach its peak in late adolescence and gradually decreases in young adulthood

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(Farrington, 2003; Moffitt, 1993; Tremblay, 2000). With slight variations, research studies confirm this pattern of evolution of antisocial behaviors, when using inter-individual comparisons at the population level, but this is not necessarily the same at the person's own trajectory level. At the intra-individual level, longitudinal studies indicate that problem behaviors tend to repeat and are relatively stable (see Farrington, 1989). There is often relative stability, but absolute change.

One type of antisocial behavior studied throughout the adolescent period is bullying. This complex psychosocial phenomenon is characterized by immoral, long-term, frequent and intentional aggressive behavior, by which some students cause harm to other peers who cannot defend themselves (Olweus, 1993; Ortega-Ruiz & Mora-Merchán, 2008; Smith et al., 2002). Bullying is relatively stable, and bullies rarely spontaneously desist from bullying their victims (Zych et al., 2020b). An extension of face-to-face bullying that also receives considerable attention from researchers is cyberbullying. Cyberbullying is defined as aggression that is intentionally and repeatedly carried out in the online context against a victim who cannot defend himself or herself easily (Kowalski et al., 2014; Patchin & Hinduja, 2015).

Research studies showed that bullying and cyberbullying are critical problems within schools and have serious short- and long-term consequences for victims and perpetrators (Zych et al., 2015). A meta-analysis of prospective longitudinal studies indicated that adolescents involved in bullying (both perpetration and victimization) are also involved in other antisocial behaviors (see Ttofi et al., 2011; Ttofi et al., 2012). A study by Bradshaw et al. (2013), examining the relationship between bullying (non-involved, victim, bully and bully/victim roles) and other risky behaviors, showed that bullies and bully/victims were at high risk of being involved in violence, engaging in different types of substance use, or having academic problems, compared to victims or uninvolved persons.

Farrington (2005), in the Integrated Cognitive Antisocial Potential (ICAP) theory, suggested that a high long-term antisocial potential (influenced by different biological, individual, family, peer, school, and community risk factors) tends to make adolescents more likely to commit many different antisocial behaviors (including bullying, cyberbullying, property damage, theft and substance use, among others). However, this high long-term antisocial potential by itself does not explain the commission of different antisocial acts. It requires also a high short-term antisocial potential (influenced by immediate situational factors), and a decision-making process for the different types of problem behavior.

In order to explain the development of antisocial behaviors, including bullying and cyberbullying, many studies have focused on analyzing risk and protective factors that

predict these problem behaviors during adolescence (e.g., Espelage et al., 2018; Farrington et al., 2016b; Lösel & Bender, 2003; Zych et al., 2019b). Age was found to be an important risk factor for adolescents to behave antisocially, given their maturity gap, but “their antisocial behavior is temporary and situational” (Moffitt, 1993, p. 647). Moreover, literature suggests that boys display more antisocial behaviors than girls (Moffitt, 2018; Rutter et al., 1998). Overall, it was found that different types of antisocial behaviors share similar risk and protective factors related to youths' social, emotional and moral competencies (Farrington et al., 2016a, b; Zych et al., 2019b). Taking into account that these risk and protective factors tend to be similar for many antisocial behaviors, it is suggested that effective prevention and intervention programs that are focused on these risk and protective factors to reduce one type of problem behavior are also likely to be effective in reducing other types (Farrington, 2021).

While there are many cross-sectional and longitudinal studies on risk and protective factors for specific types of antisocial behaviors, much less is known about patterns of antisocial behaviors and their risk and protective factors. A recent longitudinal study by Nasaescu et al. (2020) analyzed behavioral patterns of students involved in a wide range of antisocial behaviors, including bullying and cyberbullying. This study found four patterns of antisocial behaviors and concluded that some students change their pattern of antisocial behaviors while others remain stable over time.

Nevertheless, there are still gaps in knowledge regarding these patterns of antisocial behaviors that need to be addressed. For example, it is necessary to discover the factors that might explain the membership in each pattern of antisocial behaviors, or factors that facilitate transitions from one pattern to another. Several systematic reviews and meta-analyses (e.g., Zych et al., 2019b) concluded that factors related to the social, emotional and moral competencies of young people might decrease involvement in different antisocial behaviors, including bullying and cyberbullying. As patterns of antisocial behaviors have rarely been studied, the current research is necessary in many countries, including Spain, as it seeks to advance knowledge by analyzing risk and protective factors that might explain stability and change in patterns of antisocial behaviors one year later.

Social and Emotional Competencies, Empathy, and Antisocial Behaviors

Social and emotional competencies refer to applying “skills, attitudes, and behaviors to deal effectively and ethically with daily tasks and challenges” (Collaborative for Academic Social, and Emotional Learning [CASEL], 2020). As indicated by the National Research Council (2012), these social

and emotional competencies are key in developing desirable behaviors in schools and communities, and refer to setting and achieving positive goals, understanding and managing emotions, maintaining prosocial interpersonal interactions and relationships, and responsible decision making (CASEL, 2020; Gómez-Ortiz et al., 2017).

Many studies have found that social and emotional competencies might protect against different types of antisocial behaviors, including bullying and cyberbullying. Longitudinal studies provided evidence that several social and emotional competencies might prevent violence, offending or substance use (e.g., Moffitt et al., 2011). A study by Arce et al. (2011) found that low social competence was related to more antisocial behaviors and offending. A meta-analysis by Zych et al. (2019b) showed that high social and emotional competencies predicted less bullying and cyberbullying. Also, Durlak et al. (2011) found in their meta-analysis that the promotion of social and emotional competencies in schools might decrease different antisocial behaviors and promote healthy and socially adjusted development.

A longitudinal study with a 23-year follow-up by Allemand et al. (2015) found evidence that empathy is highly related to social and emotional competencies. It is well known that empathy, defined as the capacity to understand (cognitive empathy) and/or experience (affective empathy) the feelings of others, is an important component of prosocial behavior and moral development (Jolliffe & Farrington, 2006b). A systematic review and meta-analysis by Jolliffe and Farrington (2004) showed that low empathy is related to violent offending. Carrasco et al. (2006) conducted a longitudinal study with adolescent boys and found that lower levels of affective empathy predicted trajectories of physical aggression and vandalism, but not theft.

Other systematic reviews and meta-analyses have concluded that low empathy is related to high bullying perpetration (Zych et al., 2019c) and high cyberperpetration (Zych et al., 2019a), with a stronger effect of affective empathy compared to cognitive empathy. Regarding bullying victimization, results from previous studies are contradictory, and only a few studies have indicated that bullying victimization is related to high affective empathy (e.g., Caravita et al., 2010).

A study by Kokkinos and Kipritsi (2017) found that students with low empathy were more likely to display behaviors aimed at moral disengagement and bullying. On the one hand, this might suggest that students with low empathy could easily ignore the negative consequences of their immoral actions, which also might be related to involvement in different types of antisocial behaviors. On the other hand, it might suggest that students with a high level of empathy could not dehumanize their victims because of their ability to experience the other person's emotional states. Altogether, studies suggest that high empathy acts as a protective

factor against different antisocial behaviors (Jolliffe & Farrington, 2004; Zych et al., 2019b).

While literature suggests that each of these lines of research had success in explaining different types of antisocial behavior separately, more longitudinal research is needed to address the relative influence of social and emotional competencies, and empathy, on patterns of antisocial behaviors.

Moral Emotions, Moral Disengagement and Antisocial Behaviors

During the socialization process, boys and girls acquire moral standards and values that are considered appropriate in their family, school, and community contexts (Bandura, 1986). To explain why they act according to these moral standards, it is crucial to consider the regulation of the system of anticipation of consequences for oneself and others. In other words, if self-sanction (e.g., guilt) is anticipated when transgressing moral standards, antisocial behavior will be inhibited, since this would imply feeling bad about oneself when committing an immoral act (Bandura, 2002). Therefore, moral emotions (such as guilt, shame, self-pride or satisfaction), which are self-conscious emotions generated by self-evaluation and self-reflection, are important in increasing desirable behavior (Malti et al., 2010; Perren & Gutzwiller-Helfenfinger, 2012), and encouraging moral actions (Tangney et al., 2007).

Several studies have focused on the relationship between moral emotions and social behavior, and more particularly on the influence of moral emotions on the development of antisocial behaviors (e.g., Malti & Latzko, 2010; Menesini & Camodeca, 2008). A recent study by Ortiz Barón et al. (2018) found that low levels of guilt together with low empathy predicted high levels of antisocial behaviors.

When moral standards are transgressed, moral emotions could also be deactivated from moral control through several cognitive mechanisms of moral disengagement. As indicated by Menesini et al. (2015, p. 126) “moral disengagement is a multicomponent construct where cognitive reasoning and emotional reactions reciprocally interact in predicting moral behavior”. The mechanisms of moral disengagement might be activated to minimize cognitive dissonance and avoid negative self-evaluations and self-sanctions (Bandura, 2002), that is, to avoid feelings of guilt, shame or remorse (Bandura et al., 1996). Because of these processes, antisocial, harmful, and immoral behaviors could be justified as being legitimate or less harmful for oneself or others.

Studies focused on moral disengagement have helped to understand the mechanisms underlying the development of antisocial behavior. Many of them have shown a consistent relationship between the activation of moral disengagement

mechanisms and bullying (Bjärehed et al., 2020; Gini et al., 2014; Killer et al., 2019; Thornberg et al., 2015), cyberbullying (Kowalski et al., 2014), the perpetration of cyberbullying for revenge and causing harm to others (Tanrikulu & Erdur-Baker, 2021), substance use (D'Urso et al., 2018; Quinn & Bussey, 2015a, b), the propensity to lie (Doyle & Bussey, 2017), and other antisocial behaviors (Shulman et al., 2011).

Some longitudinal studies have found that people with high levels of activation of moral disengagement tend to be involved in aggressive behaviors (physical and verbal) and violence (see Mazzone et al., 2018; Paciello et al., 2008; Ribeaud & Eisner, 2015), as well as robberies and other antisocial behaviors (see Hyde et al., 2010). Furthermore, several studies suggest a gradual and reciprocal process between moral emotions, moral disengagement, and antisocial behaviors (Bandura, 2016; Mazzone et al., 2018). That is, the higher the level of moral disengagement, the lesser the feelings of guilt, shame, and remorse, and the less the need to repair the damage caused by acting in an antisocial way. This process could increase involvement in different antisocial behaviors during adolescence (see Paciello et al., 2008; Thornberg et al., 2019).

Therefore, many research studies indicate that morally disengaged youth might be at risk of displaying antisocial behaviors. However, little is known about the relationship between moral emotions and moral disengagement, and patterns of antisocial behaviors, and the influence of moral factors on the development of these patterns over time.

Perceived Parental Moral Disengagement Induction and Antisocial Behaviors

Parents are the main social agents who promote the development of moral cognitions (Bandura, 1986; Turiel, 2006). They teach their children moral standards, guiding and explaining behaviors considered desirable in certain contexts (Bandura, 1986). However, as several developmental and life-course theories have shown (e.g., Catalano & Hawkins, 1996; Farrington, 2003), during the socialization process, parents could facilitate or inhibit children's involvement in antisocial behaviors. Antisocial parents might act as antisocial models for their children, and this might increase the risk of children committing antisocial behaviors themselves (Smith & Farrington, 2004). This is even more likely to be true considering that children's moral judgments are based on the moral standards promoted by their parents (Pratt & Hardy, 2014).

Several longitudinal studies (Smith & Farrington, 2004) and meta-analyses (Murray et al., 2012) have indicated that different types of antisocial behaviors and attitudes of parents are related to antisocial behaviors of children. Furthermore, studies suggest the existence of intergenerational

transmission of antisocial behaviors (see Besemer et al., 2017; Farrington et al., 2009) in which a very important role could be played by parental-induced moral disengagement. A recent study by Zych et al., (2020a, b) showed that parental attitudes justifying transgressions of social and moral norms might reinforce the moral disengagement and antisocial behavior of their children. This study suggests that children might interpret their parents as approving their immoral behaviors, which might increase children's involvement in different types of antisocial behaviors, both outside and inside the school context (Hyde et al., 2010).

Many studies have highlighted the importance of parenting styles in the development of antisocial behaviors of their children, including a negligent parenting style (Knutson et al., 2004), coercive interactions between parents and children (Patterson, 1982) or poor parental supervision (Loeber et al., 1998). Furthermore, poor parenting practices were related to greater moral disengagement in students (Campaert et al., 2018). However, little is known about the relationship between parental-induced moral disengagement and patterns of antisocial behavior, as well as the influence that moral disengagement might have on the stability and transitions among patterns of antisocial behaviors.

The Present Study

Our literature review showed that different social, emotional and moral competencies have been examined individually and simultaneously in many cross-sectional and longitudinal studies in relation to different antisocial behaviors. However, it is still necessary to analyze in the same study whether these risk and protective factors are robust predictors of longitudinal patterns of antisocial behaviors. Thus, the current study fills gaps in knowledge by showing that factors related to social, emotional and moral competencies not only explain involvement in specific antisocial behaviors (such as bullying or cyberbullying), as shown in previous studies, but they also influence general patterns of antisocial behaviors. The research aims to extend and improve our understanding of the longitudinal patterns of antisocial behaviors by examining their risk and protective factors.

In this regard, it was expected that age, sex, social and emotional competencies, empathy, moral emotions, moral disengagement, and perceived parental-induced moral disengagement could act as risk or protective factors and might explain different patterns of antisocial behaviors. The study also analyzed the longitudinal relations between these factors and the stability and change in patterns of antisocial behaviors. Drawing from the previous literature review, and based on the ICAP theory, it is suggested that being an older adolescent with low social and emotional competencies, particularly with fewer skills for responsible decision-making,

high levels of moral disengagement, and high perceived moral disengagement induced by parents, could explain the stability and transitions of different patterns of antisocial behaviors. Altogether, the present study can be useful in informing prevention and intervention from a comprehensive perspective focused on risk and protective factors.

Method

Participants

This study included a non-probabilistic sample of 898 participants aged between 9 and 17 years old in wave 1 ($M_{\text{age}} = 12.00$; $SD = 1.86$; 451 boys, 443 girls and 4 individuals who did not indicate their sex), and between 10 and 18 years old in wave 2 ($M_{\text{age}} = 12.99$; $SD = 1.87$; 448 boys, 446 girls and 4 individuals did not indicate their sex) from eight schools in the South of Spain. Participants were included if they were students enrolled in grades 4 to 6 of primary education, and grades 1 to 3 of secondary education, when data were collected at wave 1. The sample was distributed as follows: 159 4th graders (17.7%), 167 5th graders (18.6%), 130 6th graders (14.5%), 167 1st graders (18.6%), 129 2nd graders (14.4%), and 146 3rd graders (16.3%).

Students followed up in the current study were drawn from an initial sample of 1,270 participants, but 372 could not be followed up. Attrition (29.3%) was mainly because some of them were absent on the day of collecting data, or because the codes to match the participants were not legible. Comparing participants who were followed up and participants who dropped out, some differences were found for *Responsible decision-making* ($t = 2.24$; $p < 0.05$), *Moral emotions* ($t = 3.78$; $p < 0.001$), *Cognitive empathy* ($t = 2.65$; $p < 0.01$), *Affective empathy* ($t = 2.55$; $p < 0.05$), with higher scores for followed up students, and for *Reconstructing moral transgressions* ($t = -2.04$; $p < 0.05$), with higher scores for students who dropped out. To check the effect size, Cohen's d was calculated using the Campbell Collaboration Calculator. Results showed small effect sizes for *Responsible decision-making* ($d = 0.14$, 95% CI [0.02–0.26]), *Moral emotions* ($d = 0.26$, 95% CI [0.13–0.38]), *Cognitive empathy* ($d = 0.17$, 95% CI [0.04–0.30]), *Affective empathy* ($d = 0.16$, 95% CI [0.04–0.29]), and *Reconstructing moral transgressions* ($d = 0.13$, 95% CI [0.00–0.25]).

Instruments

A self-report survey included measures validated on Spanish adolescents:

School bullying was measured using the 14-item *European Bullying Intervention Project Questionnaire* (Ortega-Ruiz et al., 2016). The instrument ($\Omega = 0.91$, in the current

sample) refers to behaviors such as hitting, insulting, threatening, stealing, excluding or spreading rumors. Items are answered on a 5-point Likert scale ranging from 1 (*never*) to 5 (*more than once a week*) thinking about one school year. It includes a 7-item *Victimization* subscale ($\Omega = 0.89$, e.g., “Someone has hit me, kicked me or pushed me”) and a 7-item *Perpetration* subscale ($\Omega = 0.86$, e.g., “I have hit, kicked or pushed a classmate”). The confirmatory factor analysis (CFA) showed that the current data fitted well with the original two-factor structure ($S/B \chi^2 = 365.14$; $df = 76$; $p < 0.001$; NFI = 0.94; NNFI = 0.95; CFI = 0.96; RMSEA = 0.067, 90% CI [0.060–0.074]).

Cyberbullying involvement was measured using the 22-item *European Cyberbullying Intervention Project Questionnaire* (Ortega-Ruiz et al., 2016). This instrument ($\Omega = 0.90$ in the current sample) describes behaviors such as insulting, rumor spreading, social exclusion, and identity theft. Items are answered on a 5-point Likert scale ranging from 1 (*never*) to 5 (*more than once a week*). The questionnaire includes a *Cybervictimization* subscale ($\Omega = 0.94$, e.g., “Someone has threatened me through messages on the Internet or mobile”), and a *Cyberperpetration* subscale ($\Omega = 0.93$, e.g., “I have excluded or ignored someone I know in a social network or chat”). The CFA showed an excellent fit ($S/B \chi^2 = 453.94$; $df = 208$; $p < 0.001$; NFI = 0.97; NNFI = 0.98; CFI = 0.98; RMSEA = 0.037, 90% CI [0.032–0.042]).

Antisocial behaviors were measured using the *Self-Reported Antisocial Behavior Questionnaire* developed by Loeber et al. (1989). The questionnaire ($\Omega = 0.94$ in the current sample) measured a wide range of transgressive behaviors by 32 items answered on a 4-point Likert scale ranging from 1 (*Never*) to 4 (*Yes, more than 3 times*). The instrument showed a five-factor structure including *Damage* ($\Omega = 0.86$, e.g., “Have you broken or damaged or destroyed something belonging to your parents or other people in your family on purpose?”), *Theft* ($\Omega = 0.90$, e.g., “Have you taken something from a store without paying for it?”), *Violence* ($\Omega = 0.84$, e.g., “Have you hit a teacher or other grown-up at school?”), *Status offenses* ($\Omega = 0.83$, e.g., “Have you skipped school without an excuse?”), and *Substance use* ($\Omega = 0.93$, e.g., “Have you drunk beer?”). A confirmatory factor analysis indicated an excellent fit of the current data to the original factor structure ($S/B \chi^2 = 687.75$; $df = 454$; $p < 0.001$; NFI = 0.96; NNFI = 0.98; CFI = 0.99; RMSEA = 0.025, 90% CI [0.021–0.029]).

The *Social and Emotional Competencies Questionnaire* developed by Zych et al. (2018) was used to measure students' social and emotional competencies. This instrument ($\Omega = 0.82$, in the current sample), answered on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), includes 16 items distributed as follows: 4 items for *Self-awareness* ($\Omega = 0.64$, e.g., “I know how to label my emotions”), 3 items for *Self-motivation and management*

($\Omega=0.61$, e.g., “I know how to motivate myself”), 6 items for *Social-awareness and prosocial behavior* ($\Omega=0.73$, e.g., “I offer help to those who need me”), and 3 items for *Responsible decision-making* ($\Omega=0.69$, e.g., “I make decisions analyzing carefully possible consequences”). A confirmatory factor analysis showed an excellent fit of the current data to the original four-factor structure ($S/B \chi^2=176.89$; $df=98$; $p<0.001$; $NFI=0.95$; $NNFI=0.97$; $CFI=0.98$; $RMSEA=0.032$; 90% CI [0.024–0.039]).

Empathy was measured using the *Basic Empathy Scale* designed by Jolliffe and Farrington (2006a) and validated in a Spanish sample by Villadangos Fernández et al. (2016). The instrument ($\Omega=0.84$ in the current sample) uses a 5-point Likert response scale ranging from 1 (*totally disagree*) to 5 (*totally agree*) and contains 20 items: 11 items focused on *Affective empathy* ($\Omega=0.79$, e.g., “I get caught up in other people’s feelings easily”) and 9 items focused on *Cognitive empathy* ($\Omega=0.79$, e.g., “I can often understand how people are feeling even before they tell me”). A confirmatory factor analysis showed an acceptable fit of the current data to the original two-factor structure ($S/B \chi^2=1176.76$; $df=169$; $p<0.001$; $NFI=0.82$; $NNFI=0.82$; $CFI=0.84$; $RMSEA=0.089$; 90% CI [0.084–0.094]).

Moral emotions were measured using the *Moral Emotions Scale* validated by Alamo et al. (2020). This instrument ($\Omega=0.77$) included five items (e.g., “I feel ashamed if people realize that I have done something bad to someone”) answered on a 5-point Likert scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). The one-factor structure was confirmed by the confirmatory factor analysis ($S/B \chi^2=5.06$; $df=5$; $p>0.05$; $NFI=0.99$; $NNFI=1.00$; $CFI=1.00$; $RMSEA=0.004$; 90% CI [<0.001 –0.047]).

Moral disengagement was measured using a short version by Zych et al., (2020a) of *The Mechanisms of Moral Disengagement Scale* (Bandura et al., 1996/1996). This instrument ($\Omega=0.91$, in the current sample) includes 19 items answered on a 5-point Likert scale ranging from 1 (*totally disagree*) to 5 (*totally agree*), distributed as follows: 7 items for *Dehumanization and blaming others* ($\Omega=0.77$), which refers to the mechanisms of victim dehumanization and attribution of blame (e.g., “Some people deserve to be treated like animals”), 4 items for *Minimizing consequences* ($\Omega=0.73$), which refers to mechanisms of distorting, ignoring or misconstruing harmful effects of actions (e.g., “Teasing someone does not really hurt them”), and 8 items for *Reconstructing moral transgressions* ($\Omega=0.84$), which include the moral justification, advantageous comparison, and euphemistic labelling mechanisms (e.g., “Slapping and shoving someone is just a way of joking”). A confirmatory factor analysis showed a good fit of the current data to this model ($S/B \chi^2=596.02$; $df=149$; $p<0.001$; $NFI=0.94$; $NNFI=0.95$; $CFI=0.96$; $RMSEA=0.061$; 90% CI [0.056–0.066]).

To measure perceived moral disengagement induced by parents, the *Perceived Parental Moral Disengagement Induction Questionnaire* (Zych et al., 2020a) was used. This questionnaire ($\Omega=0.91$ in the current sample) includes 10 items with a 5-point Likert response scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). In this self-report questionnaire, participants were asked to indicate to what extent their parents justify moral transgressions of participants. An example item is “My parents make me see that, if it is for a good reason, it is fine to hit or insult someone”. A confirmatory factor analysis indicated that the one-factor structure showed an excellent fit of the current data to this model ($S/B \chi^2=122.48$; $df=35$; $p<0.001$; $NFI=0.98$; $NNFI=0.98$; $CFI=0.99$; $RMSEA=0.054$; 90% CI [0.044–0.065]).

Procedure

This was a prospective longitudinal study with convenience sampling, approved by the Ethics Committee of the University of Cordoba (Spain). The study followed the recommendations of the Spanish Organic Law 3/2018 for data protection and the national and international ethical standards. Headteachers were contacted and informed about the objectives of this study. Parental consents were also obtained. On the day scheduled to collect the data, students filled in a paper-and-pencil survey supervised by the researchers of the project. Study participation was voluntary and anonymous. To maintain anonymity, the questionnaires were coded and wave 1 and wave 2 were matched through an anonymous code. All the students were informed that they were free to withdraw from the study at any point. Questionnaires were collected only by the researchers, so teachers had no access to the individual data of the students. Surveys were administered in about 30 to 40 min.

Data Analyses

The first stage of analysis sought to identify patterns of antisocial behaviors. In this regard, participant responses to bullying, cyberbullying and the other antisocial behavior items were dichotomized as “involved” or “not involved”. Then, latent transition analyses (LTA) were performed. LTA groups participants into behavioral patterns and estimates whether the same groups (latent statuses) can be identified at each time point. It also estimates the probability of transitioning from each group at one time point to other groups at the next time point (Collins & Lanza, 2010). These groups are based on the similarity of the responses to bullying victimization, bullying perpetration, cybervictimization, cyberperpetration, damage, theft, violence, status offences, and substance use, which suggest that membership in each group indicates a shared pattern of behavior.

Models with 3 and 4 latent statuses have been tested with 1000 randomly generated seeds and using the convergence criterion maximum absolute deviation (MAD) ≤ 0.00000100 . Based on information from G^2 , degrees of freedom, log-likelihood, AIC and BIC statistical indices, the four-status model was selected as it showed the best fit. To run these models, SAS 9.4 software Proc LTA macro-Version 1.3.2 was used (Lanza et al., 2015). Details about the codification procedure and latent classes found in the data are explained in Nasaescu et al. (2020).

In the current study, participants were further grouped into longitudinal patterns of antisocial behavior based on their stability or change from wave 1 to wave 2 (e.g., low antisocial in wave 1 and high in wave 2). The next stage of analysis (which is the focus of the current study) was to examine the relationship between age, sex, social and emotional competencies, empathy, moral emotions, moral disengagement, and perceived parental moral disengagement induction and patterns of antisocial behaviors. Multinomial regression analyses using predictors measured at wave 1, and longitudinal patterns of antisocial behaviors as dependent variables at wave 1, were performed to study cross-sectional relations among variables. This analysis estimates multiple binary logistic regressions and compares them to a reference category. In this study, the low antisocial group was the reference category. In the next step, another multinomial regression analysis was performed to discover the relation between predictors and stability and change in different patterns of antisocial behaviors one year later. In this case, the reference category was the group that showed a stable low antisocial pattern. These analyses were performed with SPSS 24 software.

Results

Table 1 shows Pearson correlations among study variables. All *social and emotional competencies*, *moral emotions*, *cognitive empathy* and *affective empathy* variables were negatively related to different antisocial behaviors and victimization. However, associations between *moral emotions*, *affective empathy* and *bullying victimization* were not significant. Neither were associations between *cognitive empathy* and *cyberperpetration*, *violence*, *status offences*, *substance use*. *Perceived parental moral disengagement induction*, *dehumanization and blaming others*, *minimizing consequences* and *reconstructing moral transgressions* were positively related to different antisocial behaviors and victimization.

To identify patterns of antisocial behavior, models with three and four latent statuses were tested. All the fit indices showed a better fit of the four-status model (log-likelihood = -8102.43; $G^2 = 4814.75$; AIC = 4916.75;

BIC = 5161.56; $df = 262,092$) in comparison to the three-status model (log-likelihood = -8246.55; $G^2 = 5102.98$; AIC = 5172.98; BIC = 5340.98; $df = 262,108$). Thus, the four-status model was chosen. Based on the response patterns and following a previous study by Nasaescu et al. (2020), the four groups were labeled as *low antisocial*, *offenders outside of school*, *highly antisocial and victimized*, and *high bullying victimization*.

The biggest group of the participants (32.6% in wave 1, and 37.3% in wave 2) were *low antisocial*, with low percentages of antisocial behaviors and victimization ranging from 1.4% (*cyberperpetration*) to around 37% (*violence*). *Offenders outside of school* (28.1% in wave 1, and 32.9% in wave 2) were participants whose percentages were low in bullying and cyberbullying, ranging around 2% (*cyberperpetration*) to almost 25% (*bullying victimization*), but high in other antisocial behaviors, ranging from 45% (*damage*) to almost 86% (*theft*). *Highly antisocial and victimized* (16.3% in wave 1, and 17.4% one year later) were participants with high probabilities of *bullying victimization* (around 87%), *bullying perpetration* (around 68%), *cybervictimization* (57%), *cyberperpetration* (around 38%), *damage* (76%), *theft* (96%), *violence* (almost 95%), *status offences* (almost 84%) and *substance use* (more than 78%). *High bullying victimization* (22.9% in wave 1, and 12.5% in wave 2) were participants with a very high percentage of being bullied (more than 95%) but low to moderate percentages of antisocial behaviors ranging from 7% (*cyberperpetration*) to 55% (*violence*).

Thirteen variables (see Table 2) were used as cross-sectional predictors of each pattern of antisocial behavior in wave 1. Results of the multinomial regression ($\chi^2 = 258.30$, $df = 39$, $p < .001$; Nagelkerke's $R^2 = .29$), with the *low antisocial* group as reference category are reported in Table 2.

As shown in Table 2, older age, low *responsible decision-making*, and high *minimizing consequences* predicted the *offenders outside of school* group in wave 1. Older age, low *self-management and motivation*, low *social awareness and prosocial behavior*, low *responsible decision-making*, high *dehumanization and blaming others*, and high *perceived parental moral disengagement induction* were related to the *highly antisocial and victimized* group. Also, results showed that younger age, being a male, and high *perceived parental moral disengagement induction* were related to the *high bullying victimization* group.

Table 3 shows the frequencies of 16 categories combining the 4 patterns of antisocial behaviors in wave 1 and in wave 2.

As indicated in Table 3, only 5 categories with more than 40 cases per category were eligible to perform a further multinomial regression, as they accounted for around 70% of sample. These categories were: *Offenders outside of school* in wave 1 and wave 2, *Highly antisocial and victimized* in wave 1 and wave 2, *High bullying victimization*

Table 1 Correlations among social and emotional competencies, empathy, morality, and antisocial behaviors

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
1. Self-awareness	1																			
2. Self-motivation and management	.32**	1																		
3. Social-awareness and prosocial behavior	.40**	.34**	1																	
4. Responsible decision-making	.33**	.28**	.39**	1																
5. Moral emotions	.26**	.17**	.41**	.21**	1															
6. Cognitive empathy	.28**	.21**	.33**	.14**	.21**	1														
7. Affective empathy	.13**	.10**	.31**	.11**	.34**	.41**	1													
8. Perceived parental moral disengagement induction	-.11**	-.10**	-.13**	-.09**	-.13**	-.19**	-.23**	1												
9. Dehumanization and blaming others	-.09*	-.10**	-.14**	-.09*	-.17**	-.07*	-.16**	.43**	1											
10. Minimizing consequences	-.12**	-.15**	-.20**	-.12**	-.22**	-.18**	-.21**	.40**	.50**	1										
11. Reconstructing moral transgressions	-.07*	-.08*	-.19**	-.13**	-.20**	-.08*	-.20**	.46**	.61**	.55**	1									
12. Victimization	-.11**	-.07*	-.09**	-.09**	-.06*	-.08*	-.02	.21**	.16**	.13**	.10**	1								
13. Perpetration	-.12**	-.13**	-.23**	-.17**	-.22**	-.15**	-.16**	.24**	.26**	.24**	.25**	.53**	1							
14. Cybervictimization	-.17**	-.17**	-.14**	-.14**	-.20**	-.08*	-.09**	.13**	.23**	.17**	.18**	.48**	.32**	1						
15. Cyberperpetration	-.12**	-.17**	-.16**	-.15**	-.23**	-.06*	-.15**	.22**	.24**	.24**	.23**	.30**	.45**	.63**	1					
16. Damage	-.16**	-.15**	-.21**	-.21**	-.23**	-.13**	-.19**	.23**	.22**	.28**	.26**	.23**	.30**	.32**	.39**	1				
17. Theft	-.13**	-.20**	-.25**	-.24**	-.21**	-.09*	-.16**	.24**	.24**	.31**	.29**	.22**	.35**	.24**	.34**	.64**	1			
18. Violence	-.07*	-.14**	-.15**	-.16**	-.18**	-.06*	-.13**	.26**	.30**	.30**	.35**	.29**	.43**	.31**	.35**	.51**	.57**	1		
19. Status offences	-.14**	-.23**	-.22**	-.22**	-.25**	-.02	-.12**	.16**	.22**	.27**	.27**	.17**	.29**	.34**	.43**	.59**	.62**	.47**	1	
20. Substance use	-.11**	-.19**	-.16**	-.13**	-.22**	-.05*	-.10**	.14**	.17**	.19**	.23**	.16**	.22**	.28**	.25**	.41**	.40**	.38**	.54**	1

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

Table 2 Predictors of group membership in the patterns of antisocial behaviors

Predictors	Offenders outside of school		Highly antisocial and victimized		High bullying victimization	
	B	SE	B	SE	B	SE
1. Self-awareness	0.07	0.18	-0.13	0.21	-0.05	0.18
2. Self-motivation and management	-0.13	0.15	-0.53**	0.18	0.20	0.17
3. Social-awareness and prosocial behavior	-0.35	0.23	-0.60*	0.28	-0.40	0.24
4. Responsible decision-making	-0.35**	0.12	-0.64***	0.15	-0.14	0.13
5. Moral emotions	-0.26	0.18	-0.33	0.21	-0.11	0.19
6. Cognitive empathy	0.20	0.18	0.09	0.23	-0.03	0.18
7. Affective empathy	0.15	0.16	0.02	0.22	0.28	0.17
8. Perceived parental moral disengagement induction	0.24	0.20	0.57**	0.22	0.41*	0.20
9. Dehumanization and blaming others	0.23	0.18	0.53*	0.22	0.15	0.18
10. Minimizing consequences	0.47**	0.18	0.23	0.22	0.12	0.19
11. Reconstructing moral transgressions	0.13	0.20	0.36	0.25	-0.07	0.21
12. Age	0.16**	0.05	0.22**	0.07	-0.12*	0.06
13. Sex (male)	0.10	0.20	0.51	0.27	0.53*	0.21

Low antisocial pattern=reference category; B=Unstandardized regression coefficients; SE=Standard Error;

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

Table 3 Frequencies of each category of longitudinal patterns of antisocial behaviors

Categories	Frequencies	Percentage
Low antisocial in wave 1 and wave 2	207	23.1
Offenders outside of school in wave 1 and wave 2	152	16.9
High antisocial and victimized in wave 1 and wave 2	76	8.5
High bullying victimization in wave 1 and wave 2	76	8.5
High bullying victimization in wave 1—Low antisocial in wave 2	73	8.1
Low antisocial in wave 2—Offenders outside of school in wave 2	58	6.5
High antisocial and victimized in wave 1—Offenders outside of school in wave 2	47	5.2
Offenders outside of school in wave 1—Low antisocial in wave 2	44	4.9
Offenders outside of school in wave 1 – High antisocial and victimized in wave 2	38	4.2
High bullying victimization in wave 1—Offenders outside of school in wave 2	26	2.9
High bullying victimization in wave 1—High antisocial and victimized in wave 2	25	2.8
High antisocial and victimized in wave 1—High bullying victimization in wave 2	14	1.6
Low antisocial in wave 1—High bullying victimization in wave 2	11	1.2
Offenders outside of school in wave 1—High bullying victimization in wave 2	7	0.8
Low antisocial in wave 1—High antisocial and victimized in wave 2	5	0.6
High antisocial and victimized in wave 1—Low antisocial in wave 2	1	0.1
Total valid	860	95.8
System missing values	38	4.2
Total	898	100

in wave 1 and wave 2, High bullying victimization in wave 1 and low antisocial in wave 2, and Low antisocial in wave 1 and wave 2.

Results of the multinomial regression ($\chi^2 = 215.90$, $df = 52$, $p < .001$; Nagelkerke's $R^2 = .34$), with low

antisocial group in both wave 1 and wave 2 as the reference category, are shown in Table 4.

As shown in Table 4, older age and low *responsible decision-making* predicted stability in the *offenders outside the school* group. Older age, low *responsible decision-making*,

Table 4 Predictors of longitudinal patterns of antisocial behaviors

Predictors	Offenders outside of school in time 1 and time 2		Highly antisocial and victimized in time 1 and time 2		High bullying victimization in time 1 and time 2		High bullying victimization in time 1—Low antisocial in time 2	
	B	SE	B	SE	B	SE	B	SE
1. Self-awareness	0.17	0.23	-0.44	0.29	0.20	0.29	-0.09	0.28
2. Self-motivation and management	-0.16	0.18	-0.15	0.23	0.21	0.24	0.30	0.24
3. Social-awareness and prosocial behavior	0.00	0.29	-0.59	0.36	-0.43	0.34	-0.04	0.35
4. Responsible decision-making	-0.52***	0.16	-0.66***	0.21	-0.24	0.20	-0.39*	0.20
5. Moral emotions	-0.21	0.23	-0.30	0.28	-0.09	0.30	-0.25	0.28
6. Cognitive empathy	0.16	0.24	-0.06	0.32	-0.24	0.29	0.35	0.30
7. Affective empathy	-0.01	0.20	-0.11	0.28	0.32	0.25	0.04	0.24
8. Perceived parental moral disengagement induction	0.41	0.25	0.28	0.31	0.38	0.28	0.35	0.28
9. Dehumanization and blaming others	0.38	0.23	0.55	0.30	0.58*	0.26	-0.12	0.27
10. Minimizing consequences	0.42	0.23	0.43	0.29	0.26	0.27	0.25	0.28
11. Reconstructing moral transgressions	0.14	0.26	0.62*	0.32	-0.36	0.32	0.35	0.30
12. Age	0.22***	0.07	0.29**	0.09	-0.16	0.09	-0.17*	0.09
13. Sex (male)	-0.10	0.26	0.49	0.35	0.71*	0.30	0.63*	0.30

B= Unstandardized regression coefficients; SE= Standard Error; Reference category = Low antisocial group in wave1 and wave 2

*** $p < .001$; ** $p < .01$; * $p < .05$ Only five categories with the highest number of participants (more than 70) were included (70% of the sample, see Table 2)

and high *reconstructing moral transgressions* predicted stability over time of the *highly antisocial and victimized* group. Being a male and high *dehumanization and blaming others* predicted stability of *high bullying victimization* over one year. Younger age, being a male and low *responsible decision-making* predicted the transition from the *high bullying victimization* group to the *low antisocial* group.

Discussion

Extensive research has focused on antisocial behaviors during adolescence such as bullying, cyberbullying, and other offline/online antisocial behaviors. It is well known that young people who display antisocial behaviors do not limit themselves to one particular problem behavior, so different patterns of antisocial behaviors may emerge (Nasaescu et al., 2020). This is supported by previous research findings which pointed out the existence of an underlying antisocial potential (Farrington, 2005, 2020), and poor skills for responsible decision making as possible explanations (Zych et al., 2018, 2019b). Nevertheless, little was known about patterns of antisocial behaviors and their risk and protective factors. Thus, the current longitudinal study aimed to examine factors that might increase the risk or protect young people from different patterns of antisocial behaviors. Also, the study aimed to discover the extent to which the possible

risk and protective factors predict stability and change in these patterns over time.

It was found that older adolescents were at higher risk of displaying (and maintaining over time) offenses outside of school and the highly antisocial and victimized patterns. The results are consistent with previous findings regarding the age-crime curve (Farrington, 1992; Moffitt, 1993; Tremblay, 2000), which suggested that there is a developmental tendency in which different types of antisocial behaviors are common and increase during adolescence. This natural tendency has been evidenced in adolescent samples from different countries, ethnic origins and times (Farrington, 1992, 2003; Moffitt, 1993). Possible explanations of why young people are involved in antisocial behaviors during adolescence were provided by different studies. For example, Steinberg (2008) suggested that adolescents are involved in risk-taking and sensation seeking behaviors because of their relative immaturity and a slower development of certain parts of the brain involved in self-regulation and response inhibition.

Our findings showed that, during early adolescence, students might be at higher risk of displaying the high bullying victimization pattern. As indicated by Arseneault et al. (2010), age might be an important factor in the severity of the bullying outcomes. Early age also predicted transitions from a high bullying victimization pattern to uninvolved, which suggests that younger bullied students might turn into non-victims and choose not to behave in an antisocial way.

This confirms that early interventions are crucial in preventing bullying.

As suggested in previous studies (see Arseneault et al., 2010), boys are at higher risk of displaying a behavioral pattern characterized by high bullying victimization. Being a male also explained the stability of the high bullying victimization pattern and changes to the low antisocial group. A possible explanation might be related to the fact that boys at early ages might have fewer resources and strategies to cope with stressful situations such as bullying (Gómez-Ortiz et al., 2017), but they might improve their psychosocial adjustment and self-regulatory abilities over time.

Specific social-cognitive mechanisms of moral disengagement were found to predict adolescents' longitudinal patterns of antisocial behaviors. As pointed out by Bandura (2016), moral disengagement mechanisms "operate across different aspects of life, but they are manifested differently" (p. 26) depending on the circumstances and scenarios where antisocial behaviors are displayed. Results revealed that students who morally disengage through victim dehumanization and attribution of blame mechanisms are more likely to display the highly antisocial and victimized pattern. In line with previous studies (see Bandura, 2002; Runions et al., 2019; Thornberg et al., 2019), it might be possible that youths who attribute the cause of their antisocial behaviors to the victim and inhibit self-censure could constantly be involved in different antisocial behaviors. Moreover, the social exclusion experienced by those who perceive themselves as victims could make them see others as less human (see Van Noorden et al., 2014). Thus, when children who are perpetrators and victims act antisocially, they may not feel guilty, ashamed, or repentant.

Current findings may be important for the victim-offender overlap, as they could be useful to explain the mechanism by which victims are also offenders. Another notable finding here is that victim dehumanization and attribution of blame also predicted stability of the high bullying victimization pattern over time, which suggests that anti-bullying programs should help bullied students to cope with the situation and prevent adverse or chronic effects on their health.

Findings show that students who minimize the consequences of the harm they inflict are at higher risk of displaying the offenders outside of school pattern. Similar results were found in previous studies (e.g., Bandura, 2002; Ortiz Barón et al., 2018; Shulman et al., 2011), pointing to the system of anticipation of consequences. It might be possible that, out of the school context, when students are free from sanctions of the teachers or other authority figures, they do not care whether antisocial behaviors may have consequences, as their perception of the damage caused to others depends on their arguments to avoid self-sanctions.

Also, it was found that a high level of cognitive restructuring, through moral justification, palliative comparison,

and euphemistic labelling mechanisms, was a risk factor for stability of the highly antisocial and victimized group one year later. A possible explanation, as previous studies have suggested (see Bandura, 2016; Mazzone et al., 2018; Paciello et al., 2008; Thornberg et al., 2019), might relate to the gradual and bidirectional dynamics between moral disengagement and involvement in antisocial behaviors. These dynamics could lead some students to maintain their antisocial pattern of behavior because of the continuous justification of their antisocial acts, so that they are not viewed as immoral (e.g., to protect honor or reputation in the peer groups).

Results showed that perceived moral disengagement induced by parents might facilitate children's highly antisocial and victimized, and high bullying victimization, group membership. Bearing in mind the ICAP theory (Farrington, 2020), it is possible that moral disengagement induced by parents might increase the long-term antisocial potential that makes students more prone to the highly antisocial and victimized pattern. Considering this, a possible explanation of our findings might relate to the social modeling processes in families, where children learn and socialize based on not feeling guilty or embarrassed for behaving in an antisocial way. Therefore, they might be at higher risk of being involved in different types of antisocial behaviors and in different contexts, but also of being victimized. Thus, comprehensive programs including family training are needed. These could benefit parents and provide them with the necessary skills for an adequate response to their children's antisocial behaviors. As indicated in a meta-analysis by Piquero et al. (2016), early family training programs might be an effective evidence-based strategy to prevent antisocial behaviors.

Findings also showed that social and emotional competencies, including responsible decision-making for the offenders outside of school pattern, and self-management and motivation, social awareness and prosocial behavior, and responsible decision-making for the highly antisocial and victimized pattern, act as protective factors. Moreover, it was found that low responsible decision-making predicted stability in the offenders outside of school and highly antisocial and victimized patterns, which suggests that responsible decision-making might be important in protecting youths from displaying these behavioral patterns over time.

A possible explanation of our findings may be related to the antisocial potential and the decision-making process suggested by the ICAP theory (Farrington, 2020). It is possible that teenagers who display the offenders outside of school and highly antisocial and victimized patterns have a high antisocial potential that could be expressed in different contexts (including online), given the low ability of these students to make responsible decisions. Current findings also pointed out that low responsible decision-making predicted

high bullying victimization that ceased at the follow-up, which suggests that low responsible decision-making could be related to sporadic victimization.

Although more studies are needed to understand these complex relationships, our findings highlight the need to conduct interventions from a comprehensive perspective promoting social, emotional and moral competencies. Particularly, self-management and motivation, social awareness and prosocial behavior, and responsible decision-making, should be promoted to reduce involvement and stability of different patterns of antisocial behaviors during adolescence.

Strengths and Limitations

The current study has important strengths, as it uses a longitudinal research design to examine stability and change at the within-individual level, by analyzing risk and protective factors for patterns of antisocial behaviors over time. However, it has some limitations that need to be clarified. A notable study limitation refers to the sample size. Further studies should consider including data from broad representative and culturally diverse samples to determine if current findings might be generalized. Although a high number of participants included in wave 1 were followed up, low frequencies in several categories of longitudinal patterns of antisocial behaviors limited the models of multinomial regression analyses to those categories with the highest number of participants (which represented almost 70% of the study sample). Thus, current findings must be interpreted with caution, as multinomial regression analyses could not be carried out for all the longitudinal patterns of antisocial behaviors. Additional studies are necessary to further understand how variables such as empathy and moral emotions relate to stability and change of patterns of antisocial behaviors.

Another limitation refers to the use of self-reports, which could include certain social desirability biases. Future research should consider gathering research data using different reports (e.g., reports by teachers). Future studies should also consider a longer follow up period, as the data used in the current study are available only for one year of follow up.

Conclusion, Recommendations, and Future Directions

The current findings are useful to advance knowledge and have important implications for policy and practice. This study yields evidence that longitudinal patterns of antisocial behaviors are relatively stable during adolescence. This suggests that adolescents who are involved in antisocial behaviors at one time point usually continue to display

antisocial behaviors one year later. Also, adolescents who are uninvolved or have low levels of involvement in antisocial behaviors usually continue to be uninvolved. Nevertheless, given that human behaviors are socially learned, and thus culturally determined by the knowledge that the culture assumes, in future international studies it would be interesting to analyze if there are cultural similarities and differences, compared to the present findings with Spanish adolescents. It might be possible that the collectivist culture of Spain may influence some findings from the current study, and it would be interesting to compare our results with future findings from more individualistic cultures. In any case, in Spain, as in other countries, there is little knowledge about cultural influences on antisocial behaviors, and these should be investigated.

Our results are important for intervention programs, since it is possible that short-term intervention programs could not be adequate to reduce different antisocial behaviors. To make significant changes in undesirable behaviors, such as bullying and cyberbullying, long-term intervention programs should be considered. The risk and protective factors examined in this study could be useful targets for prevention and interventions from a comprehensive perspective. Including all these factors could be the most effective strategy to reduce different antisocial behaviors.

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Data Availability Data are available upon request.

All procedures performed in this study involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Declarations

Conflicts of Interests There are no competing/conflicts of interests.

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