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The effect of individual and classroom moral disengagement on antisocial behaviors in Colombian adolescents: A multilevel model

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The present study examined the predictive effect of moral disengagement (within and between classrooms) on antisocial behaviors in Colombian adolescents, as well as the interaction of moral disengagement with classroom composition by age, socioeconomic status (SES), and perceived teacher–student relationship quality. Multilevel modeling was used to identify individual, compositional, and contextual effects on antisocial behaviors. The predictive variables were: (a) classroom mean score (i.e., between-classroom analysis), and (b) student deviation from the classroom mean score (i.e., within-classroom analysis). The sample included 879 students nested in 24 seventh-grade classrooms in three Colombian cities. The results showed that age, SES, and moral disengagement at the within-classroom level predicted antisocial behaviors. At the between-classroom level, antisocial behaviors were predicted by higher moral disengagement and lower aggregate SES. In addition, significant interactions were found between moral disengagement at the within-classroom level and SES at the between-classroom level. The findings expand our knowledge of the interdependence between individual and classroom contexts in the exercise of moral agency during adolescence.

KEYWORDS

antisocial behaviors, moral disengagement, classroom composition, contextual effects, multilevel

Introduction

Adolescence is a developmental period characterized by greater independence from parents and higher peer influence. It is also a period in which antisocial behaviors are explored. Antisocial behaviors refer to behaviors that violate social norms and rules, challenge authority, and break social conventions; in many cases, they are also illegal. Due to the negative consequences of these behaviors for individuals and society, many researchers have dedicated significant effort to identifying predictors and explanatory models to prevent and limit their occurrence (Manrique-Millones et al., 2021).

There is a wide body of criminological, sociological, and psychological research on antisocial behaviors in adolescence (Curtis, 2015). Several meta-analyses have accounted for a variety of predictors and explanatory models for such behaviors (e.g., Serketich and Dumas, 1996; Ogilvie et al., 2011; Malti and Krettenauer, 2013; Braga et al., 2018). However, as evidenced by Yousefi-Nooraie et al. (2006) and Plancikova et al. (2021), most studies have considered samples from English-speaking and high-income countries, despite the fact that 80% of the world's population lives in low- and middle-income countries with high rates of crime and violence.

The present study examined determinants of antisocial behaviors in a sample of Colombian adolescents, thus contributing to the literature on low- and middle-income countries. As recently reported (Institute for Economics and Peace, 2022), Colombia ranks 143rd out of 163 countries in the Global Peace Index. In fact, Colombia is a country with a long history of violence due conflict between the Colombian Government and illegal armed groups. Many Colombian children and adolescents are raised amidst and otherwise exposed to violent and transgressive behavior, and although the country is currently in a state of peace (recently inaugurated by the government), more empirical studies are needed to provide insight into the psycho-social processes involved in the development of antisocial behaviors in adolescents, which may still apply to many Colombian youth.

The study adopted Bandura's (1986) socio-cognitive model, which holds that aggressive and antisocial behaviors are determined by a reciprocal interplay between contextual, personal, and behavioral factors. In particular, it focused on mechanisms of moral disengagement that operate at both an individual and a contextual level. Unlike ethical theories that focus on moral reasoning as a direct generator of moral behavior, Bandura's theory focuses on self-regulatory mechanisms in the exercise of moral agency. Most of the time, individuals are knowledgeable about the negative consequences of their wrongdoing and possess moral principles that condemn norm violations and antisocial behaviors. However, as Bandura (2002, p. 102) reported, "the self-regulation of morality is not entirely an intrapsychic matter as rationalist theories might lead one to believe. People do not operate as autonomous moral

agents impervious to the social realities in which they are enmeshed."

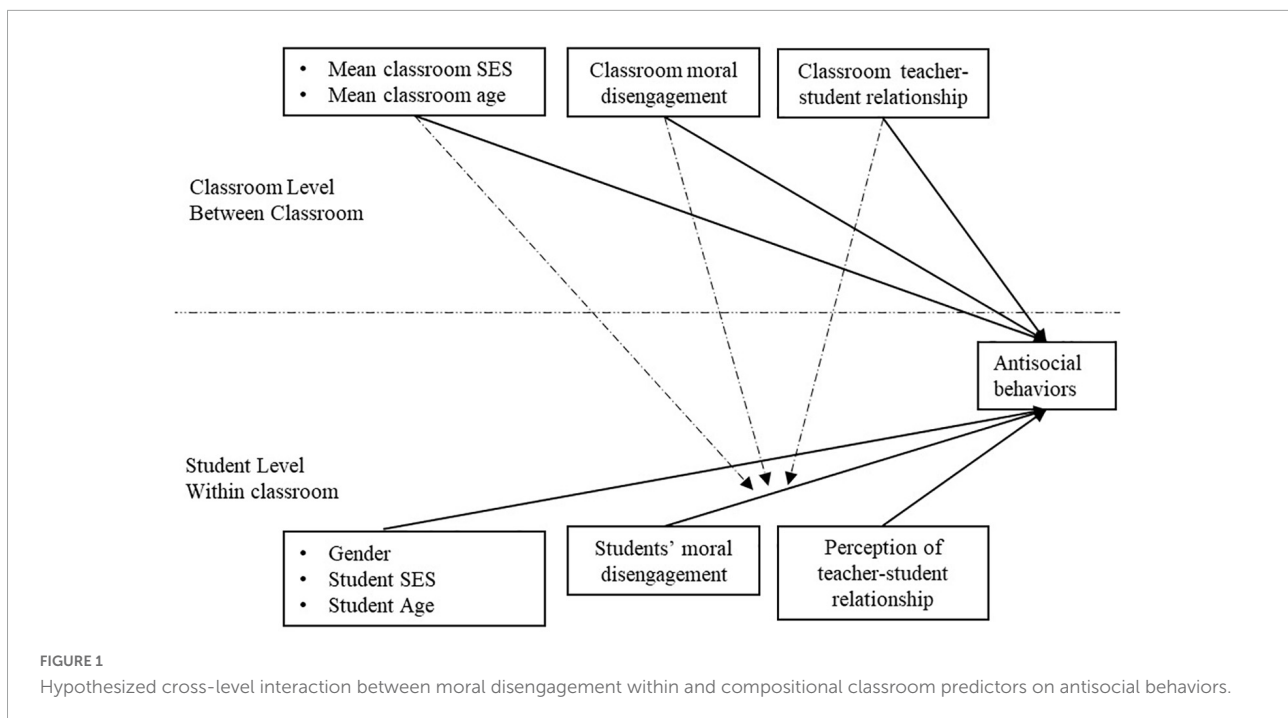
Adolescence is a developmental period in which youth increase their use of abstract reasoning and adopt moral principles and personal standards to account for their behaviors. However, while adolescents may generally refrain from violating their moral standards to avoid self-condemnation, they may still commit antisocial actions by justifying their wrongdoing. Thus, adolescents' enactment of antisocial behaviors may result from their incapacity to self-regulate their moral behaviors. In this vein, Bandura et al. (1996) proposed that cognitive mechanisms of moral disengagement represent active maneuvers to defuse internal moral sanctions (e.g., guilt) and allow for antisocial behaviors, despite established moral principles (Bandura, 2016).

As a result of interactive, coordinative, and synergistic group dynamics, moral disengagement may also be activated at a collective level (Bandura, 2002; White et al., 2009; Zimbardo, 2011). In recent years, studies focused on bullying behaviors have highlighted the importance of the classroom context (in which adolescents spend several hours a day interacting with peers of the same age), and particularly classroom moral disengagement (e.g., Gini et al., 2014; Bjärehed et al., 2021). The present study aimed at expanding the knowledge base on the relationship between moral disengagement and antisocial behaviors at both individual and classroom levels.

Individual and classroom moral disengagement and antisocial behaviors

Social cognitive theory (Bandura, 1986), which focuses on aggressive and antisocial conduct, highlights the role of moral disengagement in either activating or disengaging from moral self-sanction. Mechanisms of moral disengagement operate individually and collectively according to three sets of self-regulatory practices. The first set of practices is comprised of moral justification, euphemistic labeling, and advantageous comparison. These practices have the effect of substantially redefining a reprehensible action. Through moral justification, individuals appeal to a desired outcome (i.e., "the ends justify the means") to overshadow the reprehensibility of their conduct. Through euphemistic labeling, they misdescribe their actions to mitigate the severity of the effects. And through advantageous comparison, they again diminish the severity of their offenses by comparing their conduct with more serious and reprehensible actions committed by others.

The second set of practices is comprised of distortion of responsibility, diffusion of responsibility, and distortion of consequence. These practices aim at deforming the relationship between the cause and the effect of a reprehensible action. Through distortion of responsibility, individuals appeal to the fault of others to alleviate the blame placed on themselves.



Through diffusion of responsibility, they exempt all others from imputability. And through the distortion of consequences, they minimize or ignore the seriousness of the consequences of their conduct.

Finally, the third set of practices is comprised of the attribution of blame (i.e., “victim blaming”) and dehumanization. These practices involve a reconsideration of the victim. Through the attribution of blame, individuals attest that the offense they caused to another was fully deserved. And through dehumanization, they degrade the victim to a lower object or species and thereby perceive and treat them as a target of offense with no empathic or identifying concern (Bandura et al., 1996; Bandura, 2002; Caprara et al., 2006).

Research has confirmed the predictive and mediating role of moral disengagement on various transgressive behaviors. For example, moral disengagement has been associated with a higher probability of alcohol consumption (Newton et al., 2012), aggressive behavior (Bandura et al., 1996; Gini et al., 2014), bullying (Killer et al., 2019; Bjärehed et al., 2021), and cyberbullying (Bjärehed, 2021; Thornberg et al., 2021). Regarding antisocial behavior, studies have shown that adolescents with high moral disengagement manifest more problem behaviors (Yang and Wang, 2012). In addition, a meta-analysis showed that the effect of moral disengagement on antisocial behaviors increases in line with the severity of the action (Férriz-Romeral et al., 2019). Longitudinal studies have shown that, in most youths (89%), levels of moral disengagement are relatively high in early adolescence and decrease with age into early adulthood (Paciello et al., 2008). Furthermore, some studies have shown that a decrease/increase

in moral disengagement contributes to a decrease/increase in antisocial behaviors in the transition to adulthood (Bandura et al., 2001; Shulman et al., 2011).

Moral disengagement has also been studied as a mediator in cross-sectional and longitudinal studies to explain the relationship between school and family factors and antisocial behaviors. Specifically, the mediating effects of moral disengagement have been observed in the relationship between peer rejection in middle adolescence and adult delinquency (Fontaine et al., 2014); a positive perception of the school climate and antisocial behaviors (Zhang et al., 2020); parental monitoring (but only with the most collaborative strategies) and school climate with respect to cyberbullying (Bartolo et al., 2019); positive parenting and child antisocial behaviors (Pelton et al., 2004); and secure parental attachment and child antisocial behaviors (Bao et al., 2015).

Classroom composition and antisocial behaviors

Some studies (Vitoroulis et al., 2016; Alivernini et al., 2019; Rambaran et al., 2020) have explored the effect of classroom composition on adolescents’ transgressive behaviors. In particular, research has shown that classrooms with more students (Finn et al., 2003), lower academic performance (Junger-Tas et al., 2009), and a lower median income (Westphal et al., 2016) have more student antisocial behaviors. Most studies in this area have explored school-related behaviors in the educational context (e.g., school bullying).

TABLE 1 Descriptive statistics and correlation for study variables.

Variables	1	2	3	4	5	6	7	8	9
Outcome variable									
1. Antisocial behaviors (multi-informant)	0.29 (0.26)								
Variables									
2. Gender ^a	0.056								
3. Age	0.253**	-0.003							
4. SES ^b	-0.087*	0.054	-0.009						
5. Moral disengagement	0.365**	0.225**	0.138**	-0.031					
6. Teacher-student relation	-0.108**	-0.047	-0.044	-0.044	-0.133**				
Transformed variables									
7. Age classroom (mean aggregate)	0.218**	-0.058	0.305**	-0.071	0.045	-0.126**			
8. SES classroom (mean aggregate)	-0.121**	0.006	-0.077*	0.311**	-0.284**	0.032	-0.269**		
9. Moral disengagement (mean aggregate)	0.150**	0.013	0.048	-0.219**	0.399**	-0.054	0.174**	-0.741**	
10. Teacher-student relation (mean aggregate)	-0.181**	0.087*	-0.136**	0.035	-0.070*	0.286**	-0.443**	0.117**	-0.187**

^aboy = 1, girl = 0; ^bMiddle = 1, Low = 0.
p* < 0.05 and *p* < 0.01.

However, as suggested by Müller et al. (2016), the effects of classroom composition on adolescent aggressive and antisocial behaviors should be explored more widely, to expand our understanding of the predictive value of classroom composition on (especially) severe antisocial problems. Also, in considering the class context, we considered the quality of teacher-student relationship. As part of the classroom climate, the protective function of teacher-student relationships on antisocial behavior has been pointed out. Students who feel supported and close to their teachers give importance to the expectations of their teachers not to transgress and to contrast the expression of aggressive and antisocial behaviors (Cunningham, 2008).

Longitudinal studies have shown that students who report better relationships with their teachers at age 10 engage in fewer criminal acts at ages 13, 15, and 17 (Obsuth et al., 2021). On the contrary, stressful classroom environments, with other conflicts between teachers and students and lack of teacher support, contribute to mental health problems, school failure, and antisocial behavior (Roslyne Wilkinson and Jones Bartoli, 2021).

Finally, during early adolescence, there is a significant influence of peers on antisocial behaviors (e.g., Kaplan et al., 1987; Dishion and Patterson, 2016). Peer behavior also contributes to establishing classroom dynamics, which may have a further effect on antisocial behaviors (Müller et al., 2016). The nesting of individual student characteristics could explain the variability in individual student behaviors. Individuals who belong to a group (e.g., a classroom) tend to be interdependent, whereby the behavior of one group member influences the group's behavior either directly, through interaction with others (i.e., within-classroom level), or indirectly, by contributing to the formation of a group environment that influences each member of the group (i.e., between-classroom level) (Feaster et al., 2011). The influence of classroom composition, represented by the average of individual characteristics, can be explained by Cialdini et al.'s (1990) concept of the *descriptive norm*. A descriptive norm refers to a belief about what most others in a social group actually do. Unlike prescriptive norms, which are beliefs about what should be done, descriptive norms do not typically imply social sanctions for non-compliance with the norm.

The present study

The present study aimed at examining the predictive role of moral disengagement (both within and between classrooms) on antisocial behaviors in Colombian adolescents, and the interaction of moral disengagement with classroom composition by age, SES, and perceived teacher-student relationship quality. More specifically, the study analyzed: (a) the degree of variance in antisocial behaviors explained by classroom composition; (b) the predictive effect of students'

TABLE 2 Multilevel estimates for models predicting student antisocial behaviors.

Effect	Student antisocial behaviors					
	Model 1. unconditional	Model 2. within classroom	Model 3. reduced	Model 4. between classroom	Model 5. cross level interaction	Model 6. final model
Fixed effects						
Intercept	0.284 (0.02)***	0.248 (0.03)***	0.268 (0.02)***	−1.53 (0.60)*	−1.54 (0.57)*	−2.10 (0.47)***
City (dummy variables)						
SMT vs. MED MAZ		0.014 (0.04)				
MED vs. SMT MAZ		0.050 (0.04)				
Student variables						
Gender (1 = boy)		−0.001 (0.02)				
Age (Age_cwc)		0.031 (0.01)***	0.031 (0.01)***	0.031 (0.01)***	0.030 (0.01)***	0.030 (0.01)***
SES (SES_cwc) ¹		−0.043 (0.02)*	−0.039 (0.01)*	−0.039 (0.02)*	−0.040 (0.02)*	−0.040 (0.02)*
Moral disengagement (MD_cwc)		0.135 (0.02)***	0.132 (0.01)***	0.131 (0.01)***	−1.91 (0.8)*	−1.88 (0.57)**
Teacher-student relation (TSR_cwc)		−0.011 (0.01)				
Classroom variables						
Age classroom (Age_mean)				0.137 (0.04)**	0.139 (0.04)**	0.162 (0.03)***
SES classroom (SES_mean)				0.026 (0.09)	0.029 (0.09)	0.043 (0.09)
Moral disengagement (MD_mean)				0.126 (0.06)*	0.126 (0.06)*	0.140 (0.06)*
Teacher-student relation (TSR_mean)				−0.065 (0.05)	−0.066 (0.04)	
Cross-level interaction						
MD_mean*MD_cwc					0.077 (0.09)	
SES_mean*MD_cwc					0.315 (0.14)*	0.225 (0.04)*
Age_mean*MD_cwc					0.147 (0.05)**	0.151 (0.04)**
TSR_mean*MD_cwc					−0.037 (0.06)	
Random effects						
Student level variance	0.064 (0.003)***	0.043 (0.002)***	0.043 (0.002)***	0.042 (0.002)***	0.040 (0.002)***	0.042 (0.002)***
Classroom level variance	0.005 (0.002)*	0.004 (0.002)*	0.005 (0.002)*	0.0008 (0.0006)	0.0009 (0.0007)	0.0009 (0.0007)
ICC	0.067					
Model deviance						
−2*Log likelihood	110.366 (3)	−181.33 (10)	−192.04 (6)	−214.55 (10)	−229.84 (14)	−226.15 (11)
χ ² test		291.69***	10.71*	22.51***	15.28**	3.69
Within-classroom R ²		0.331	0.336	0.356	0.349	0.375
Between-classroom R ²		0.137	0.011	0.823	0.837	0.739

SMT, Santa Marta city; MED, Medellin city; MAZ, Manizales city; SES, Socioeconomic status (Middle = 1, Low = 0).

* $p < 0.05$, ** $p < 0.01$, and *** $p < 0.001$.

moral disengagement within classrooms on antisocial behavior; (c) the predictive effect of between-classroom differences in moral disengagement on students' antisocial behaviors; and (d) the moderating effect of classroom composition by age, SES, and perceived teacher-student relationship quality on the relationship between moral disengagement and antisocial behaviors (see Figure 1).

On the basis of social cognitive theory and the literature, it was expected that moral disengagement at the individual and classroom levels would be associated with more frequent antisocial behaviors. It was also expected that classroom climates perceived as positive would reduce the effect of moral disengagement on antisocial behaviors and, on the contrary,

classrooms composed of older students and students with a lower socio-economic status (SES) would increase the impact of moral disengagement on antisocial behaviors.

Materials and methods

Data and analytic sample

The sample included 879 seventh-grade students in 24 classrooms across three Colombian cities ($M = 12.7$ years; $SD = 1.03$; 55.6% boys), and their parents ($N = 734$). Recruitment proceeded according to the following steps:

(1) four public schools were identified in each city that agreed to participate in the project; (2) in each school, two seventh-grade classes were randomly selected; and (3) students from each of the selected classes who voluntarily agreed to participate and whose parents gave their consent were enrolled in the study. No exclusion criteria were established for age, sex, or SES.

Procedure

All study data were collected within the CEPIDEA project (i.e., “Promotion of Prosocial Behaviors and Emotional Regulation Competencies in Adolescence”), which was conducted in 2015–2016 in three Colombian cities. The project was submitted for ethical review at the Universidad del Magdalena, the Universidad San Buenaventura, and the Universidad de Manizales. The participation of all schools, students, and parents was voluntary. Prior to the data collection, informed consent was obtained from the students’ parents, according to the Colombian regulations for the participation of minors in investigations. Subsequently, the questionnaires were administered in the classrooms by three research assistants, who provided the necessary guidance and were available to answer any questions. Participants’ identifying data were replaced with codes to maintain confidentiality.

Measures

Outcome (antisocial behavior)

The outcome variable of antisocial behaviors was measured using eight items from the parent-report Child Behavior Checklist (CBCL; Achenbach and Rescorla, 2001) and eight identical items from the self-report version of this form (YSR). Means of the matched items were used to calculate a score for antisocial behaviors. The selected items measured antisocial behaviors such as theft, cheating, lying, destructiveness, and truancy. Responses ranged from 0 (*not true*) to 2 (*very true*). Cronbach’s alpha was 0.67 for the CBCL and 0.72 for the YSR.

Predictors

Two predictor variables were used: (1) student deviation from the classroom mean (i.e., Level 1, within-classroom) and (2) classroom mean scores (i.e., Level 2, between-classroom).

Level 1 variables

Predictor variables at the student (i.e., within-classroom, individual) level included demographic factors (i.e., gender, age, SES), moral disengagement, and teacher–student relationship

quality. Gender was a dichotomous variable coded as 1 for boys and 0 for girls. SES was evaluated according to the classification established in Law 142 of 1994 of Colombia; the variable was coded as 0 for low SES and 1 for medium SES.

The Moral Disengagement Scale (Bandura et al., 1996) was used as a measure of moral disengagement. The 32 items on this scale assess the degree to which adolescents resort to mechanisms (i.e., moral justification; palliative comparison; euphemistic labeling; minimizing, ignoring, or misconstruing consequences; displacement; diffusion of responsibility; dehumanization; attribution of blame) to selectively disengage from moral self-regulation of their harmful behaviors (e.g., “It is okay to tell small lies because they don’t really do any harm”). Responses ranged from 1 (*don’t agree at all*) to 5 (*totally agree*). In the present study, Cronbach’s alpha for this scale was 0.90.

Quality of the student–teaching relationship was also included as a predictor at this level. For this, four items from the Comer School Development Program (Cook et al., 1999) were used as a measure (e.g., “How many teachers listen to the students’ proposals with pleasure?”).

Level 2 variables

All classroom variables (i.e., mean SES, mean age, mean moral disengagement, mean teacher–student relationship quality) were constructed from aggregate student data.

Data analysis

Several scholars have emphasized the importance of using multilevel models to examine the influence of the school context on antisocial behaviors (Gottfredson, 2001; Müller et al., 2016). Accordingly, the present study used a multilevel random intercept model to explore individual and contextual effects on antisocial behaviors. The complete multilevel random intercept model was executed in three steps. In the first step, an unconditional mean model (Model 1) was used to determine the intraclass correlation coefficient (ICC), indicating the variance in antisocial behaviors explained by the grouping structure (i.e., classrooms). The second step employed a hierarchical linear model that initially added within-classroom predictors (Model 2) and subsequently added classroom-level predictors (Model 4). The hypothesized interaction effects (see Figure 1) were then estimated (Model 5). The third and final step involved the estimation of a reduced model with a backward elimination of predictors and non-significant interactions to ease model interpretation (Model 6). According to Heck and Thomas (2009), for predictive studies (i.e., the present study), variables can be retained in a model only when they are statistically significant.

All hierarchical linear model analyses were estimated with the maximum likelihood method, using SPSS version 25 statistical software. Deviation ($-2 \times \text{Log Likelihood}$) and explained variance (Pseudo R^2) were

used to evaluate model fit, with lower significant deviation and higher explained variance considered indicative of better model fit. In addition, the likelihood-ratio chi-square test (χ^2 test) was used to evaluate the significance of the difference in model fit between subsequent models.

Results

Descriptive statistics

Table 1 presents the descriptive statistics and correlation analysis of the observed and transformed variables at the classroom level. The mean for delinquent behavior was 0.29 (min = 0, max = 2). Of note, 55.6% of the sample were boys, and students' mean age was 12.72 years. Antisocial behaviors (according to both the CBCL and the YSR) were positively associated with age and moral disengagement, as well as with classrooms' mean age and mean moral disengagement. On the contrary, antisocial behaviors were negatively associated with students' SES, teacher-student relationship quality at the student level, classroom mean SES, and teacher-student relationship quality at the classroom level.

Unconditional mean model

An unconditional mean model was estimated to calculate ICC. **Table 2** (Model 1) shows that the intercept was estimated at 0.284, representing the level of antisocial behaviors across the 24 classrooms. The ICC for antisocial behaviors was 0.067 [ICC = $0.005/(0.005 + 0.064)$], describing that 6.7% of the variance in antisocial behaviors was between classrooms. The deviation ($-2LL$) of the unconditional model was 110.366.

Multilevel analysis

Within-classroom level

At the within-classroom level, the predictive effect of moral disengagement on antisocial behaviors was modeled, while controlling for the effects of sites (i.e., cities), gender, age, SES, and teacher-student relationship quality. As shown in **Table 2** (Model 2), a significant positive association was found between moral disengagement (within-classroom level) and antisocial behaviors. Regarding the control variables, antisocial behaviors were positively associated with age and negatively associated with SES and teacher-student relationship quality. Gender and sites were not significantly associated with antisocial behaviors; therefore, a reduced model was

run without these variables (see Model 3). The reduced model showed lower deviance ($-2*LL$) than the unconditional model, and the difference in fit between Model 2 and the reduced Model (3) was not statistically significant. The reduced model explained 33.6% of the variance in antisocial behaviors within the classroom.

Between-classroom level

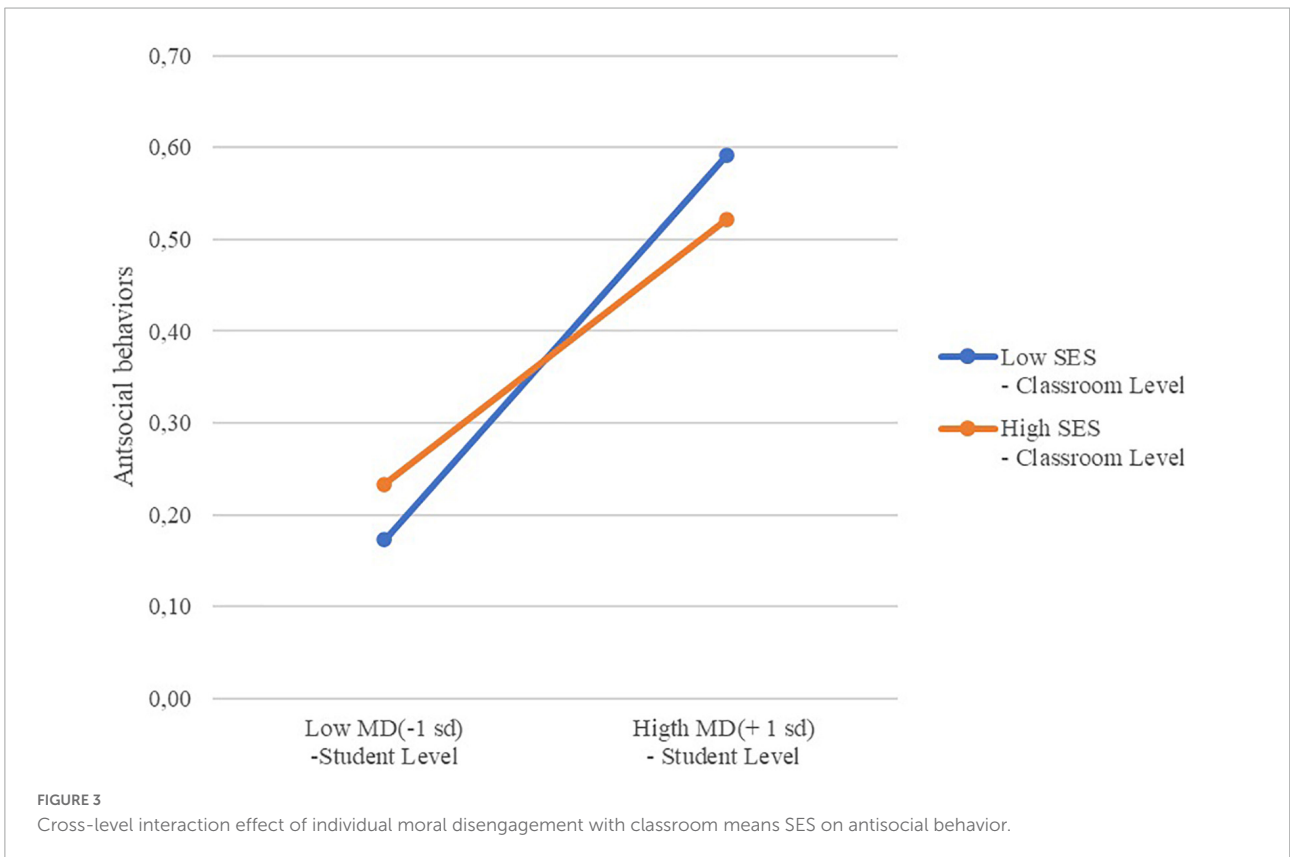
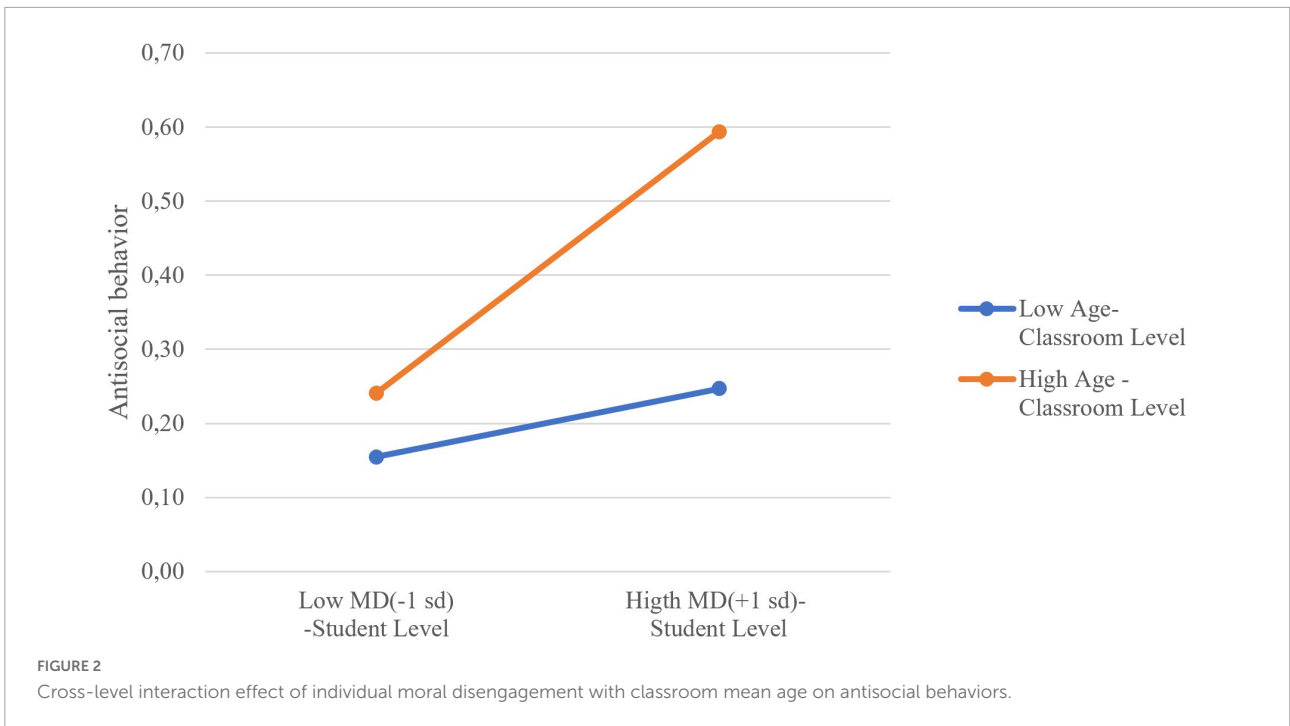
At the between-classroom level, the effect of moral disengagement on antisocial behaviors was tested while controlling for individual predictors and covariates at the classroom level (i.e., age, SES, teacher-student relationship quality). As **Table 2** (Model 4) shows, a significant positive association was found between moral disengagement (mean classroom) and antisocial behaviors. Regarding the control variables (i.e., classroom level), antisocial behaviors were positively associated with age (mean classroom). SES (mean classroom) and student-teacher relationship quality (mean classroom) were not significantly associated with antisocial behaviors. This model showed a lower deviation ($-2*LL$) than Model 3, and the difference in fit between the two models was statistically significant. Model 4 explained 35.6% of the variance in antisocial behaviors within the classroom and 82.3% between classrooms.

Interplay between within-classroom and between-classroom predictors

Table 2 (Model 5) shows the interaction effects of moral disengagement (individual level) with moral disengagement (classroom level), age (classroom level), SES (classroom level), and teacher-student relationship quality (classroom level). A significant interaction of age (classroom level) was found between moral disengagement (individual level) and antisocial behaviors, whereby students with higher moral disengagement in classrooms with a higher mean age showed more delinquent behaviors (see **Figure 2**). A significant SES interaction was also found between moral disengagement (individual level) and antisocial behaviors, whereby students with high moral disengagement in classrooms with a lower SES showed more antisocial behaviors (see **Figure 3**). The final model (Model 6) explained 37.5% of the variance in antisocial behaviors within the classroom and 73.9% between classrooms.

Discussion

The present study explored the predictive role of moral disengagement (both within and between classrooms) on antisocial behaviors in Colombian adolescents, and the interaction of moral disengagement with classroom composition by age, SES, and perceived teacher-student relationship quality. Bivariate analyses showed that student



antisocial behaviors were positively associated with age and moral disengagement and negatively associated with SES and teacher–student relationship quality. In other words, students with high moral disengagement, older age, and lower SES who perceived a poor teacher–student relationship quality showed more antisocial behavior. These results are consistent with the findings of prior studies that have identified moral disengagement (e.g., Yang and Wang, 2012; Gini et al., 2014; Ferriz-Romeral et al., 2019), SES (e.g., Guerra, 2018; Khaliq and Rasool, 2020), and age (e.g., Wissink et al., 2014) as risk factors, as well as teacher–student relationship quality (Roslyne Wilkinson and Jones Bartoli, 2021) as a protective factor for adolescents' transgressive behaviors.

Multilevel modeling showed that moral disengagement predicted antisocial behaviors at both individual (i.e., within-classroom) and classroom (i.e., between-classroom) levels, while controlling for the effect of age, SES, and teacher–student relationship quality. In other words, students with high moral disengagement, nested in classrooms with high moral disengagement, showed high antisocial behaviors. These findings align with the results of recent multilevel studies that have analyzed moral disengagement at the individual and classroom levels as a predictor of bullying and cyberbullying behaviors (Gini et al., 2015; Bjärehed, 2021; Bjärehed et al., 2021; Thornberg et al., 2021).

Regarding compositional effects, an association was found between student age and antisocial behaviors at both individual and classroom levels. Thus, students who were older than their classmates and who belonged to a classroom with older students were more likely to engage in high antisocial behavior. Considering that all of the participating students were in the same academic grade, older students may have had a history of academic failure or a period of school dropout. According to the literature (Patterson et al., 1989; McEvoy and Welker, 2000), academic failure plays a significant role in escalating antisocial behaviors, through affiliation with deviant peers. School dropout has also been shown to be associated with peer rejection and antisocial behaviors (French and Conrad, 2001; Gubbels et al., 2019).

Cross-level interaction analyses showed a significant interaction between age at the classroom level and individual moral disengagement in predicting antisocial behaviors, whereby the relationship between moral disengagement and antisocial behaviors was stronger in classrooms with an older mean age than those with a lower mean age.

Although the bivariate analyses showed a significant correlation between teacher–student relationship quality and antisocial behavior, this association was not significant when the variable was factored within and between classrooms, and moral disengagement, gender, and SES were included as covariates. It is possible that the moral disengagement effect suppressed the effect of teacher–student relationship quality. In this vein,

a previous study found that moral disengagement mediated the relationship between school climate and cyberbullying (Wang et al., 2021).

These findings expand our knowledge of the interdependence between individuals and the classroom in the exercise of moral agency during adolescence.

Limitations and recommendations for future research

Despite several strengths of the present study (e.g., a relatively large sample size, multi-informant data), some limitations should also be considered. First, the sample size at the classroom level was relatively small, since it did not meet the 30/30 rule discussed by Bickel (2007). This may have generated bias in the estimation of variance components, as some simulation studies have documented (Maas and Hox, 2005). Therefore, the models tested here should be replicated with a larger number of students in each classroom.

Second, the study was based on correlational data, which did not allow for causal inferences to be drawn. Therefore, future studies may benefit from experimental designs or instrumental variable approaches that are capable of identifying causal effects.

Finally, some classroom factors, such as the number of students and the type of establishment (e.g., private or public), should be considered in future research analyzing classroom composition in Latin American contexts, which are characterized by unequal educational systems.

Conclusion

The present results highlight the role of moral disengagement, measured at the individual and classroom levels, as a predictor of students' antisocial behavior in adolescence. Students with higher levels of moral disconnection and students from more disengaged classes were found to engage in more antisocial behaviors.

Regarding the influence of the classroom context on student behavior, a significant effect of age and SES at the classroom level was found in the relationship between moral disengagement and antisocial behaviors. In classrooms composed of older students with a lower SES, the effect of the relationship between moral disengagement and antisocial behaviors was amplified.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by the Ethics Committee of the Universidad del Magdalena, Universidad de Manizales, and Universidad San Buenaventura- Medellín. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

Author contributions

MGP: investigation, data curation, formal analysis, and writing—original draft. FL: conceptualization and supervision. CP: conceptualization, supervision, and writing—review and editing. CPB, MN, and LU: investigation, data curation, and validation. BL: conceptualization, investigation, and validation. MRG: validation and data curation. AZ: methodology and formal analysis. FC: methodology and data curation. GT:

investigation and validation. MG: conceptualization. All authors contributed to the article and approved the submitted version.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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