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Parental overprotection as a predictor for an increase in adolescents' externalizing behavior problems and the moderating effect of family socioeconomic status and adolescents' gender

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Abstract

Background: Parental involvement is generally related to positive child outcomes, but when this involvement is taken too far and becomes overprotective, it is associated with higher levels of adolescent behavioral problems. Adolescents who express externalizing behavior might face many negative consequences. Research on the effect overprotective parenting has on externalizing behavior problems has not been done often. Therefore, this study examined the predictive influence of overprotective parenting, hypothesizing that this parenting-style predicts an increase in externalizing behavior problems. This relation is expected to be stronger for adolescent boys and families with a high socioeconomic status. **Methods:** The main hypothesis is assessed by using data from the TRAILS study (N = 2230; 51% female; $M_{\text{age}} = 11.10$ years). **Results:** Adolescents who perceive their parents' parenting style as more protective, reported an increase in externalizing behavior problems. Results indicated that lower SES groups reported higher levels of externalizing behavior problems, however, no interaction was found, and the relationship was reverse to what was hypothesized. Furthermore, the effect of parental overprotection on externalizing behavior does not differ between boys and girls. **Conclusions:** Adolescents who perceive their parents' behavior as more protective, express more externalizing behavior problems. This provides important implications for ensuring adolescents' healthy development.

Achtergrond Een beschermende opvoedingsstijl wordt vaak gerelateerd aan positieve uitkomsten voor kinderen, maar wanneer deze betrokkenheid te ver gaat en als overbeschermend wordt gezien, kan het leiden tot een toename in gedragsproblematiek. Adolescenten die externaliserende gedragsproblemen vertonen, kunnen veel negatieve gevolgen ervaren. Onderzoek naar het effect van een overbeschermd opvoedingsstijl op externaliserende gedragsproblemen is nog niet vaak gedaan. Deze studie onderzoekt de invloed van een overbeschermd opvoedingsstijl, waarbij verwacht wordt dat deze opvoedingsstijl een toename van externaliserend probleemgedrag voorspelt. Tevens wordt verwacht dat deze relatie sterker is voor jongens en gezinnen met een hoge sociaaleconomische status. **Methode:** De hoofdhypothese wordt getoetst op data uit de TRAILS studie (N = 2230; 51% vrouw; $M_{\text{age}} = 11.1$ jaar). **Resultaten:** Adolescenten die de opvoedingsstijl van hun ouders als overbeschermd ervaren, rapporteerden een toename in externaliserende gedragsproblemen. Ook bleek dat lagere SES-groepen een hogere mate van externaliserende gedragsproblemen rapporteerden. Er werd echter geen interactie gevonden, en de relatie was omgekeerd aan wat werd verondersteld. Tevens bleek dat het effect van een

overbeschermende opvoedingsstijl op externaliserend probleemgedrag niet verschilt voor jongens en meisjes. **Conclusie:** Adolescenten die het gedrag van hun ouders als meer beschermend ervaren, vertonen meer externaliserende gedragsproblemen. Dit biedt belangrijke implicaties voor het bewerkstelligen van een gezonde ontwikkeling van adolescenten.

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Introduction

Adolescents' externalizing behavior problems

Recent statistics show that, for the first time in ten years, juvenile delinquent behavior in the Netherlands has increased in 2019 with 6.5%. That year, a total of 165.000 people were suspected of committing a crime and over 1 out of 10 suspects were minors (Central Bureau for Statistics, 2019). Moreover, self-reported delinquency questionnaires amongst a representative sample of adolescents revealed that in 2015, 35% of adolescents claimed being involved in delinquent behavior in the previous 12 months. Within this group, 16% of adolescents reported that they expressed either mild or severe violent behavior (Van der Laan & Goudriaan, 2019). Both delinquency and aggression are classified as forms of externalizing behavior (Bishop et al., 2020). Adolescents with externalizing behavior problems are characterized as being disruptive, harmful towards others, destructive and prone to violating societal norms. (Keil & Price, 2006; Hiramura et al., 2010). Adolescents exhibiting externalizing behavior problems may face many negative consequences in their development. They are at an increased risk for poor outcomes later in life, such as criminality, mental and physical health difficulties, and social and occupational difficulties (Turner, 2005; Nelson et al., 2020). Additionally, externalizing behavior problems are associated with truancy, deviant peer relationships, low self-esteem and poor academic achievement, (Vaughn et al., 2013; Padilla-Walker et al., 2019; Nelson et al., 2020). Given the continuity of externalizing behavior problems during adolescence and possibly into adulthood, these behavior problems and possible risk factors deserve further study. Hence, it is not surprising that efforts to prevent and reduce behavioral problems in adolescence have received considerable attention in recent years (Loeber & Slot, 2007; Jaffee & D'Zurilla, 2003). Externalizing behavior problems often start in childhood (van Petegem et al., 2013). For that reason, an important factor that may contribute to the development of these externalizing behavior problems is the parent-child relationship, since the home environment is a main developmental context (Dishion & Kavanagh, 2003). One aspect of parenting practice that has been associated with adolescent externalizing behavior is overprotective parenting, also known as 'helicopter parenting', in which a parent tends to 'hover' over their child (Schiffrin et al., 2019). Therefore, the aim of the current research is to investigate the association between overprotective parenting and adolescents' externalizing behavior problems. Previous research indicates this relation might differ between family socioeconomic status (SES) and adolescent gender. Hence, these variables will be taken into account in the current study (Brown & Iyengar, 2008; Rote et al., 2020; Kouros et al., 2017).

Parental overprotection

Parental overprotection has been conceptualized as behavior involving high levels of regulation, surveillance, and interference. Also, these parents tend to discourage independent problem solving (Bögels & Brechman-Toussaint, 2006). More specifically, it represents parenting that is high on warmth, high on control, and low on granting autonomy (Padilla-Walker & Nelson, 2012). Prior research already highlighted the relationship between parental overprotection and adolescents' externalizing behavior problems, in which an increase in parental overprotection predicted an increase in externalizing behavior (Nelson et al., 2020). When parents do not encourage independent problem solving, adolescents might respond less adaptively and appropriately to problematic situations and consequently may express externalizing behavior. Also, when parents limit their children's exposure to risk and responsibilities, these children tend to perceive the world around them as dangerous, failing to assess risks appropriately. As a result, they are at an increased risk for expressing aggressive and delinquent behavior (Nelson et al., 2020; Campbell et al., 2000; Akciner & Baydar, 2016; Szkody et al., 2020; Ungar, 2009).

Parental practices such as overprotection, can be a threat for the secure base parents provide to their children for the exploration of novel situations (Valdez, 2016). A theory providing more insight in how some parenting styles may lead to maladaptive behavior such as externalizing behavior, is Bowlby's Attachment Theory, in which the parent-child relation is central to adolescents' adaptation and mental health (Jones & Bowlby, 1970). When this attachment between parent and child is characterized as 'insecure', it poses a risk for the development of adolescents' externalizing behavior problems, such as aggressive and antisocial behavior (Fearon et al., 2010). Children whose parents use warm and supportive parenting practices are more likely to establish a healthy, secure attachment (Levy et al., 2010). An insecure attachment style is characterized by rejection and a lack of autonomy for adolescents to discover novel situations. Since overprotective parents often do not acknowledge the autonomy of their child, the relation between parental overprotection and adolescents' externalizing problem behavior could be explained by an insecure attachment style between child and parent. (Lee & Hankin, 2019).

An overprotective parenting style might occur due to several factors. Firstly, some parents might feel insecure about their own parenting. As a consequence, they could try to avoid parenting failure by being overprotective of their child. A possible explanation for the latter is that parents nowadays do not receive as much support from their surroundings, such as grandparents and neighbors (Thomese & Liefbroer, 2013). This decrease in support adds to

the feeling of parental stress, which in turn is hypothesized to be of influence on adolescents' externalizing behavior problems (Turner, 2005). Also, some parents seem to be unable to recognize and acknowledge the need for independence of their upgrowing child. A possible consequence is that parents pose a threat to adolescents' need for autonomy and exert unwanted influence (Rogers et. al, 2019). When there is a lack of autonomy granted to adolescents, they tend to act out and are therefore at increased risk for exhibiting externalizing behavior problems (Lansford et al., 2013). Lastly, overprotection amongst families can be a result of poorly informed parents regarding the psychosocial developmental needs of the child (Ungar, 2009). In sum, there are several factors that might lead to an overprotective parenting style, resulting in mechanisms related to externalizing behavior problems. Therefore, this overprotective parenting-style is hypothesized to be of influence on adolescents' externalizing behavior problems, as is confirmed by prior research (Rogers et. al, 2019; Janssens et. al, 2009; Nelson et. al, 2015; Nelson et al., 2020; Campbell et al., 2000; Akciner & Baydar, 2016; Szkody et al., 2020). Thus, the first hypothesis is formulated:

H1: Parental overprotection predicts an increase in adolescents' externalizing behavior problems.

Family socioeconomic status

Parenting styles tend to differ across socioeconomic strata (Bornstein & Bradley, 2014). Prior research indicated a stronger effect for overprotective parenting on externalizing problem behavior in families with a middle to high socioeconomic status (Brown & Iyengar, 2008). Parents with a higher SES possibly show a higher level of involvement in their children's lives. The latter might be due to highly educated parents spending more time with their children than lower educated parents (Guryan et. al, 2008). Although parental involvement is not usually harmful to the child, overinvolvement in the child's life could have negative consequences (Brown & Iyengar, 2008). Some parents may exaggerate this time spent with their adolescent or are involved in many supervising activities that have a negative consequence for the child. Also, among higher educated parents, it appears that particular academic activities are monitored to an unhealthy degree (LeMoyne & Buchanan, 2009). Overall, parents with a higher socioeconomic status tend to show more overprotective parenting behavior.

In sum, parental overprotection is predicted to be of influence on adolescents' externalizing behavior, regardless of their socioeconomic background. Nonetheless, it is

hypothesized that the predictive influence of overprotection is greater for those adolescents who are part of a family with a high socioeconomic status, as opposed to families with a low socioeconomic status.

H2: Family socioeconomic status positively moderates the relation between parental overcontrol and adolescents' externalizing problem behavior.

Gender

Besides family SES, research indicates that adolescents' gender might be of influence on the relationship between overprotection and externalizing behavior problems (Nelson et al., 2020; Rote et al., 2020). In general, it is expected for boys to engage more in externalizing behavior than girls. Research suggests that boys are more likely to exhibit physical and verbal aggression or disruptive behaviors overall, whereas girls are more likely to exhibit interpersonal hostility in more covert ways (Leadbeater et al., 1999; Bishop et al., 2020). The latter might be supported by national data, suggesting boys participating significantly more often in delinquent and violent behavior than girls (Central Bureau for Statistics, 2019).

The gender intensification hypothesis (Hill & Lynch, 1983) possibly explains the mixed findings for boys and girls. Masculinity and femininity are hypothesized to be sets of attributes, behaviors and roles, internalized by individuals as a consequence of expectations the society holds about how males and females ought to behave (Schrover, 2008). Furthermore, masculinity and femininity have several labels attached to it. For males, these consist for example of 'independent', 'dominant', and 'strong', often associated with risk behavior, whereas females are often associated with 'emotional' and 'sensitive' (Thom, 2004).

Gender differences might be present in the relation between parental overprotection and externalizing behavior as well. Boys seem to experience their overprotective parents' behavior differently than girls and therefore, might experience different consequences of inefficient parental rearing (Rote et al., 2020; Kouros et al., 2017). It is hypothesized that boys more than girls, tend to benefit from parenting styles in which autonomy is granted. Thus, when autonomy is restricted, which is often the case in an overprotective parenting-style, this may have more impact on boys than girls. Additionally, parents tend to provide more intrusive assistance to boys than girls, often resulting in more restriction for boys (Schiffirin et al., 2019). Other research indicates that girls experience more internalizing problem behavior

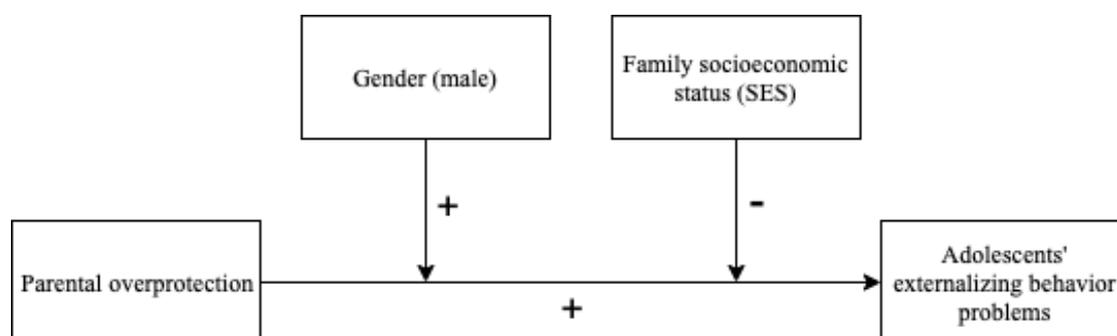
as a result of inefficient parental rearing practices. It should be noted however, that this effect was moderate (Muris et. al, 2003). In contrast, boys seem more likely to experience externalizing problem behavior as a result of inefficient parental rearing (Buschgens et. al, 2009). The current study investigates whether boys are indeed more likely to express externalizing problem behavior as a result of overprotective parenting. Thus, the third hypothesis is stated as follows:

H3: The relationship between overprotective parenting and adolescents' externalizing behavior problems is stronger for boys.

Current study

Altogether, the main focus of the current study is to examine the relationship between parental overprotection and adolescents' externalizing behavior problems. Moreover, it is hypothesized that the effect of overprotective parenting on externalizing behavior. could be stronger for families with a higher SES. As stated previously, the latter might find its origin in parents with a higher SES expressing more involvement in the parent-child relationship, sometimes taking this involvement too far.

Also, the influence of parental overprotection on externalizing behavior problems is expected to be stronger for male adolescents than female adolescents. The latter might be explained by culturally defined gender roles shaping consequences of overprotective parenting on adolescents. Lastly, the current study will control for adolescents' ethnicity, since prior research indicated possible racial disparities in adolescents' problem behavior, such as disruptive and aggressive behavior (Bogart, 2013; Felson & Richard, 2015). All hypothesized relationships described are displayed in the research model below.



Methods

Participants

The participants of this study ($N=2230$; 51% female; $M_{\text{age}} = 11.10$ years; $SD = 0.60$; 76% response rate) were drawn from the TRacking Individuals' Lives (TRAILS) study, an ongoing prospective cohort study monitoring the mental health of young adolescents from age 11 to young adulthood and onwards. The first assessment wave (T1) of TRAILS ran from March 2001 to July 2002. From the first sample, 2149 (94%; $M_{\text{age}} = 13.56$ years; $SD = 0.53$) participated in the second wave (T2). This first follow-up assessment was held two to three years after T1 (mean number of months 29.47, $SD = 5.43$; de Winter et al., 2016).

Participants were approached in five different municipalities in the north of the Netherlands, both in rural and urban areas. Parents or caregivers, as well as adolescents, received a letter including information about the study, and were invited to participate. Furthermore, ethical approval for each wave was obtained from the Dutch national ethics committee 'Central Committee on Research Involving Human Subjects' (Oldehinkel et al., 2015; Huisman, 2008; de Winter et al., 2005).

Attrition analyses comparing adolescents who dropped out at T2 revealed significant differences with adolescents who remained in the study. Drop-outs were more likely to be male ($t(2092) = 2.047, p < .05$), and drop-outs were more likely to have an ethnic minority background ($t(2092) = -5.013, p < .01$). No significant differences were found for age, socioeconomic status, externalizing behavior problems and parental protection ($p > .05$).

Procedure

Trained interviewers visited one of the adolescents' parents or caregivers to administer an interview. Topics included developmental history, health, parental psychopathology, and the use of care. Before conducting the interview, parents were asked to sign a form of informed consent. Children were assessed at school, providing them with a questionnaire. This questionnaire was conducted under the supervision of one or more TRAILS assistants. Lastly, teachers were asked to fill out a brief questionnaire as well (Huisman, 2008; Dijkstra et al., 2009).

Measurements

Parental overprotection (T1) was measured with a subscale of the EMBU-C scale, in which adolescents provided their perspective on their parents' protective behavior, rejection,

and warmth. The subscale 'Protection' was assessed using 12 items, measured on a 3-point scale (Cronbach's $\alpha = 0.70$). Answering options consisted of *0 = not at all*, *1 = a little bit/sometimes*, *2 = clearly/often*. The data offered a score for paternal and maternal overprotection separately, but in order to gain insight in overall parental overprotection, the mean of these two scores on the first wave will be combined into one scale. Examples of questions asked in the questionnaire regarding overprotection are: "If your mother or father is sad, do you feel like that is your fault?", "Do you feel like your mother or father is too concerned that something might happen to you?", and "Do you feel like your mother or father expect too much when it comes to grades, sports activities, etc.?". A higher score indicated higher perceptions of a protective parenting style.

Adolescents' externalizing behaviour problems (T1 & T2) were assessed with the Youth Self Report Scale (YSR; Verhulst & Van der Ende, 2013) using two subscales. Firstly, aggressive behaviour was assessed using 17 items, measured on a 3-point scale (T1 Cronbach's $\alpha = 0.82$, T2 Cronbach's $\alpha = 0.80$). Adolescents were questioned about behaviours such as yelling, attention seeking, destructive behaviour, fighting, obedience at school and at home, and bullying behaviour. Furthermore, delinquency was assessed using 15 items on a 3-point scale (T1 Cronbach's $\alpha = 0.64$, T2 Cronbach's $\alpha = 0.71$). Answering options consisted of *0 = not at all*, *1 = a little bit/sometimes*, *2 = clearly/often*. Questions consisted of topics such as alcohol use, rule breaking, friends' characteristics, cursing, arson, stealing, smoking, truancy and drug use. A scale for externalizing behaviour problems was created, consisting of the mean score of both aggressive and delinquent behaviours (Achenbach et al., 2016). A higher score indicated higher levels of self-reported externalizing behavior problems.

Adolescents' gender (T1) was measured using a scale in which parents were questioned about their child's gender. Answering options were *1 = boy*, *2 = girl*.

Family socioeconomic status (SES, T1). A SES score was constructed combining different items from the parent report. Items included income level, educational level of both parents, and occupational level of both parents. A scale for family SES was created by averaging the standardized scores of the five indicators (Cronbach's $\alpha = 0.84$). A higher score indicated a higher family socioeconomic status.

Adolescents' ethnicity (T1). Prior research (Bogart et al., 2013; Felson & Richard, 2015) indicated adolescents' ethnicity might pose as a possible confounding factor. Thus, adolescents' ethnicity will be taken into account as a covariate. Parents participating in the TRAILS study were questioned about their birth country, as well as the birth country of their partner. Both items were combined and recoded into a dichotomous variable, in which 0 = *ethnic minority background*, 1 = *ethnic majority*. Participants were coded as having an ethnic minority background when at least one of their parents were born in a non-Western country (i.e., Turkey, Morocco, Surinam, Antilles, Indonesia or Moluccas, or Islamic countries; Althaus et al., 2003).

Analytic strategy

Using IBM SPSS Statistics version 27, descriptive statistics will be used to characterize the study population. To identify the predictive effect of parental protection on adolescents' externalizing behavior problems, a hierarchical regression analysis will be performed. Before testing the hypotheses, initial data checks were performed. Firstly, the assumption of normality was assessed. The tests showed that the residuals were not entirely normally distributed. Scatterplots indicated that the assumption of a linear relationship between independent and both dependent variables was not met as well. Nonetheless, since the sample is of substantial size, it was decided to continue with analyses. Thirdly, analysis of collinearity statistics showed this assumption has been met, as VIF scores were below 10 (VIF = 1.28) and tolerance scores above 0.2 (Tolerance = 0.79). The assumption of independent values of the residuals was met as well, since the Durbin-Watson statistic showed an obtained value close to 2 (Durbin-Watson = 2.02). A plot of standardized residuals versus standardized predicted values showed no signs of funneling, suggesting that the assumption of homoscedasticity has been met. Lastly, Cook's Distance values were all under 1, suggesting individual cases were not unduly influencing the model. Concluding, most assumptions were met, and it was therefore decided to continue with regression analyses. Nonetheless, violation of assumptions should be noted when interpreting results (Field, 2009).

In the first model of the hierarchical regression analysis, control variables adolescents' ethnicity and adolescents' externalizing behavior problems will be added to detect possible confounding factors. In the second model parental protection will be added to examine the main association, in which it is hypothesized an increase in parental protection predicts an increase in externalizing behavior problems. Lastly, in the third model, the main effect of family SES and adolescents' gender and the two interaction variables will be added to the

analysis to examine the hypothesized moderating role of both. In order to be included as an interaction variable in the regression analysis, family SES and parental protection were centered.

Results

Descriptives and correlations

Table 1: *Descriptive statistics of all study variables*

	Total <i>M (SD)</i>	Girls <i>M (SD)</i>	Boys <i>M (SD)</i>
Ethnicity	0.89 (0.31)	0.89 (0.31)	0.90 (0.31)
Externalizing behavior problems (T1)	0.27 (0.20)	0.24 ^a (0.17)	0.31 ^b (0.21)
Externalizing behavior problems (T2)	0.29 (0.20)	0.28 ^a (0.19)	0.30 ^b (0.20)
Parental protection (T1)	1.86 (0.38)	1.83 ^a (0.37)	1.88 ^b (0.39)
Socioeconomic status (T1)	0.49 (0.50)	-0.03 (0.78)	-0.07 (0.82)

Note. *M* and *SD* are used to represent the mean and standard deviation, respectively. Within rows, means with different subscripts are significantly different for girls and boys.

Table 1 displays the descriptive statistics (the mean and standard deviations) of all variables included in this study separately for girls and boys. Furthermore, table 2 provides a correlation matrix in which correlations between all variables are displayed. For correlations including a dichotomous variable (i.e., gender and ethnicity), Spearman's correlation was used. For all other variables, a Pearson's correlation was used. As expected, results show a significant positive correlation between parental protection and externalizing behavior problems on T1 ($r = 0.02$; $p < 0.01$) and T2 ($r = 0.17$; $p < 0.01$). Furthermore, socioeconomic status is not significantly correlated with externalizing behavior problems on T1, but is negatively correlated with externalizing behavior problems on T2 ($p < .01$), indicating adolescents with a lower SES reporting higher levels of externalizing behavior problems. Gender is positively correlated with parental protection ($r = 0.05$; $p < 0.05$) and externalizing behavior problems on T1 ($r = 0.17$; $p < 0.01$) and T2 ($r = 0.05$; $p < 0.05$), indicating that boys are more likely report higher levels of externalizing behavior problems. Furthermore, correlation analysis revealed that adolescents who score higher on externalizing behavior

problems on T1, also score higher on externalizing behavior problems T2. Lastly, adolescents' ethnicity appears to be significantly negatively correlated with parental protection ($r = -0.13$; $p < 0.01$), and positively with socioeconomic status ($r = 0.17$; $p < 0.01$).

Table 2: Correlation matrix between all study variables

	1	2	3	4	5	6.
1. Ethnicity ^a (T1)	-					
2. Externalizing behaviour problems (T1)	0.01	-				
3. Externalizing behaviour problems (T2)	-0.04	0.47**	-			
4. Parental protection (T1)	-0.13**	0.24**	0.17**	-		
5. Socioeconomic status (T1)	0.17**	-0.05*	-0.07**	-0.09**	-	
6. Gender ^b (T1)	0.01	0.17**	0.05*	0.05*	-0.03	-

Note: Reference category^b = non-Western immigrant background, reference category^a = male.
* $p < .05$, ** $p < .01$ (2-tailed).

Hierarchical multiple regression analysis

Parental protection

The main effect of parental protection on externalizing behavior problems was analyzed in a regression model ($F(5, 2030) = 115.16$, $p < 0.01$), while controlling for adolescents' ethnicity and externalizing behavior problems on T1. Results indicated that this model explained 22.10% of variance in externalizing behavior. ($R^2 = 0.22$). As hypothesized, parental protection appeared to be a positive significant predictor for externalizing behavior problems on T2 ($B = 0.03$; $p < 0.01$). Adolescents who perceive their parents' parenting style as more protective, reported an increase in externalizing behavior problems. Furthermore, control variable adolescents' ethnicity had a significant direct effect on externalizing behavior problems on T2 ($B = -0.03$; $p < 0.05$). According to the results, adolescents with a non-Western immigrant background reported higher levels of externalizing behavior problems on T2. Externalizing behavior problems on T1 also posed as a significant predictor for

externalizing behavior problems on T2 ($B = 0.47$; $p < 0.01$), indicating that a higher score for externalizing behavior problems on T1, predicted a higher score on T2 as well.

Family socioeconomic status and adolescents' gender: main effect and moderation

When adding family SES, adolescents' gender and both moderation variables, the model did not significantly explain more variance than the previous models ($R^2 = 0.22$). Results indicated that family SES is a negative significant predictor for adolescents' externalizing behavior problems on T2, with lower SES groups reporting higher levels of externalizing behavior problems than higher SES groups ($B = -0.01$, $p < 0.05$). The interaction variable including parental protection and family SES was not significant ($B = -0.02$; $p > 0.05$). Thus, the relationship between parental overprotection and adolescents' externalizing behavior problems is not different between SES groups.

Furthermore, adolescents' gender is not a significant predictor of externalizing behavior ($B = -0.01$; $p > 0.05$). Adding the interaction variable including parental protection and adolescents' gender to the analysis did not reveal significant results ($B = 0.01$; $p > 0.05$). The relationship between parental overprotection and adolescents' externalizing behavior is therefore not stronger depending on gender. Both moderation hypotheses are rejected. In this last step of the analysis, adolescents' ethnicity was no longer a significant predictor ($B = -0.02$; $p > 0.05$).

Table 3: Results of hierarchical multiple regression analysis, including unstandardized (*B*), standard errors (*SE*), regression coefficients for every predictor and moderators (a) SES and (b) gender (*N*=2029).

	Model 1	Model 2	Model 3
	Externalizing behavior problems (T2) <i>B</i> (<i>SE</i>)	Externalizing behavior problems (T2) <i>B</i> (<i>SE</i>)	Externalizing behavior problems (T2) <i>B</i> (<i>SE</i>)
Ethnicity ^a (T1)	-0.03* (0.01)	-0.02 (0.01)	-.02 (0.01)
Externalizing behavior problems (T1)	0.47** (0.02)	0.46**	0.46** (0.02)
Parental overprotection (T1)		0.03**	0.03** (0.01)
Family SES (T1)			-0.01* (0.01)
Gender ^b (T1)			-0.01 (0.01)
(a) Parental protection x SES			-0.02 (0.01)
(b) Parental protection x Gender			0.01 (0.03)
<i>R</i> ²	0.22	0.22	0.22

Note: Reference category^a = non-Western immigrant background, reference category^b = male. **p*<0.05, ***p*<0.01 (2-tailed).

Model 1: regression analysis including control variables

Model 2: main effect of parental overprotection

Model 3: family SES, gender, and both interaction variables

Discussion

This study investigated the predictive influence of parental protection on adolescents' externalizing behavior problems, including the possible moderating effect of family socioeconomic status and adolescents' gender. First of all, in line with the first hypothesis and prior research (Rogers et. al, 2019; Janssens et. al, 2009; Nelson et. al, 2015), higher levels of parental protection predicted an increase in adolescents' externalizing behavior problems. It is concluded that adolescents who perceive their parents' parenting style as more protective, report an increase in externalizing behavior problems. Prior research points to a variety of mechanisms that are likely to explain the link between parental overprotection and adolescents' externalizing behavior problems. The Attachment Theory explains how some

parenting styles may lead to maladaptive behavior, such as externalizing behavior problems (Jones & Bowlby, 1970). When attachment between parent and child is characterized as 'insecure', in which parents express rejection and grant less autonomy, the child might act out by displaying externalizing behavior. Theorists have suggested that attachment is crucial for the way children respond to sources of threat and challenge and determines to what extent children are able to draw on parental support and comfort as a means of coping (Fearon et al., 2010). Furthermore, overprotective parents often discourage independent problem-solving, which in turn might cause the adolescent to act out by being aggressive or display delinquent behavior (Jaffee & D'Zurilla, 2003).

Furthermore, in contrast to the second hypothesis, results showed no interaction effect of family SES on the relationship between parental overprotection and adolescents' externalizing behavior problems. Although research (Brown & Iyengar, 2008) indicated that the effect of parental overprotection on adolescents' externalizing behavior might be stronger for families with a higher SES, findings of this study indicated otherwise. Only a direct effect of SES on externalizing behavior was detected and in the opposed direction; a lower family SES background predicted higher levels of externalizing behavior problems. This seems to be in line with prior research, since it is often found that youth from families with a lower SES tend to show more externalizing behavior problems (Silver et al., 2005; Renee & Sydney, 2015). A low family SES has been associated with externalizing behavior problems, since low income families often face numerous adversities such as parental stress, which in turn is hypothesized to be of influence on adolescents' externalizing behavior problems (Turner, 2005).

Thirdly, it was hypothesized that gender moderated the relationship between parental overprotection and adolescents' externalizing behavior problems, in which it was assumed the effect would be stronger for boys (Schiffirin et. al, 2019; Muris et. al, 2003; Buschgens et. al, 2009; Leadbeater et al., 1999). Results indicated the effect of parental overprotection adolescents' externalizing behavior was not stronger for boys than girls, so no gender differences were detected. Although regression analysis did not show a direct significant effect of gender, correlation analysis and descriptives did indicate boys scored higher on self-reported externalizing behavior problems, while the increase between T1 and T2 on externalizing behavior was not different for boys and girls. The latter may have to do with the fact that the increase is already low on a group level. The baseline differences might be explained by various mechanisms. Firstly, boys tend to express more externalizing behavior overall, whereas girls express more internal behavior problems (Muris et. al, 2003; Leadbeater

et al., 1999; Buschgens et. al, 2009). It is important to note here that these effects have been moderate. Also, parents tend to offer more intrusive assistance to boys than girls. Lastly, research indicated that when autonomy is restricted, which is often the case in an overprotective parenting style, this has more impact on boys than girls, resulting in more externalizing behavior problems (Schiffirin et. al, 2019). Since the role of gender seems to remain ambiguous and is not found in the current research, it is suggested to take adolescents' gender into account in further research, to gain more insight in the role gender might play in regard to parental overprotection and externalizing behavior. The need for follow-up research regarding this relationship has been emphasized by prior research as well (Nelson et al., 2020). Besides adolescents' gender, it is advised for future studies to take the parents' gender into account as well, since prior research has shown maternal and paternal parenting may look different and should be examined separately (Pedilla-Walker et al., 2019).

Lastly, adolescents' ethnicity appeared to be a significant confounder, indicating adolescents with a non-immigrant background reporting lower levels of externalizing behavior than adolescents with a non-Western immigrant background. It was expected for adolescents' ethnicity to be of influence here, since prior research indicated possible racial disparities in adolescents' problem behavior, such as disruptive and aggressive behavior (Bogart, 2013; Felson & Richard, 2015). Nonetheless, this effect was no longer significant once family SES and adolescents' gender were added to the analysis.

Limitations

The current study has several strengths, such as the large population sample and the longitudinal design. Prior research investigating the relationship between parental overprotection and externalizing behavior problems has mostly been cross-sectional in nature (Nelson et al., 2020). Nonetheless, the findings have to be interpreted in light of some limitations. Firstly, due to the longitudinal data used, loss of follow-ups needs to be considered as attrition may have biased the findings. Despite the relatively high response rate, loss of participants may have led to underestimation regarding gender and ethnicity as most dropouts were male and had a non-Western immigrant background. Secondly, analyses were based on self-reported data, which might introduce bias and lead to underestimation of the contribution of certain factors as well. Also, parents might not characterize their parenting style as overprotective, while the adolescent could have experienced this differently. These discrepancies might be informative about the family environment, and it is therefore suggested future studies use multi-informant measures to assess the family environment. As indicated by Kevenaar et al. (2021), using multi-informant measures comes with many

advantages. Furthermore, a community-based sample was used, resulting in a relatively low score on externalizing behavior. Thus, the data was skewed - many participants reported not expressing externalizing behavior problems at all. As a consequence, findings may not generalize to adolescents with clinical behavioral problems, or at-risk populations. It would be valuable for future research to for example assess more specific (at-risk) adolescent samples.

Implications

Notwithstanding limitations, the current study showed that parental overprotection predicted an increase in adolescents' externalizing behavior problems and thus offers important starting points for future studies, since overprotective parenting has often been overlooked or characterized as not being harmful to adolescents. It is suggested for future studies to investigate mechanisms through which family SES and adolescents' gender are related to child externalizing behaviors, especially given the differences in research. Considering the recent increase of externalizing behavior problems in adolescents (Central Bureau for Statistics, 2019; Van der Laan & Goudriaan, 2019) and the many negative consequences the adolescent might face throughout the life course, it is pivotal to educate parents on developmental needs and provide them with interventions. These interventions ought to help challenge overprotective parents while opening up safe opportunities for adolescents to experience manageable amounts of responsibility and risk (Ungar, 2009). The findings of this study require replication in different adolescent samples, but the findings already confirm that policy makers and youth services need to pay close attention to adolescents experiencing adverse parenting styles such as overprotective parenting, to ensure their well-being at all times.

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