

Abstract

To explain why there is substantial heterogeneity in the degree to which adolescents suffer from psychologically controlling parenting, it is important to take into account adolescents' active contribution to the socialization processes and to their coping with controlling parenting in particular. This study aimed to examine whether adolescents' coping with controlling parenting (i.e., oppositional defiance, compulsive compliance, negotiation, and accommodation) moderated associations between psychologically controlling parenting, adolescents' experiences of psychological need frustration, and their internalizing and externalizing problems. A total of 161 adolescents (*M* age = 15.56 years; *SD* age = 1.14; 61.5% female) and either their mother or their father participated in 7-day diary study. As expected, accommodation played an adaptive role, thereby buffering within-person (daily) associations between psychologically controlling parenting, adolescents' need frustration, and subsequent problems. Unexpectedly, compulsive compliance played a similar adaptive role. Overall, the moderating effects of coping were rather limited, suggesting that adolescents' coping can alter the daily negative consequences associated with psychologically controlling parenting only to a certain extent.

Introduction

Psychologically controlling parenting, which involves intrusive and pressuring parental practices, has been shown to be detrimental for adolescents' development and mental health (Scharf & Goldner, 2018). However, not all adolescents suffer from psychologically controlling parenting to the same extent (Pinquart, 2016, 2017; Yan et al., 2020). To explain why adolescents differ in their susceptibility to psychologically controlling parenting, it is important to take into account adolescents' active contribution to the dynamics involved in such parenting (Soenens & Vansteenkiste, 2020). Adolescents are assumed to display agency in the parent-child relationship, thereby trying to find a way to cope with psychologically controlling parenting (Soenens et al., 2019). Depending on their coping strategy, some adolescents may be more resilient to the adverse effects of psychologically controlling parenting, whereas other adolescents may be more vulnerable. Studies examining the moderating role of coping in effects of psychologically controlling parenting are scarce, and have focused either on the level of between-adolescent differences in exposure to parental psychological control (e.g., Cheah et al., 2019) or on fluctuations at the within-person level over extended periods of time (e.g., Flamant et al., 2020). However, parents' engagement in psychologically controlling practices fluctuates also on a day-to-day basis, with adolescents displaying more ill-being on days with elevated parental psychological control (Mabbe, Soenens, et al., 2018). To date, no research has addressed the role of adolescents' coping strategies in such effects of daily parental psychological control. The current diary study fills this gap, thereby aiming to identify coping strategies that protect adolescents against parental psychological control on a daily basis as well as coping strategies that are ineffective or even dysfunctional.

Psychologically Controlling Parenting

Psychologically controlling parenting involves manipulative, pressuring, and sometimes subtle parental behaviors that interfere with the child's psychological and emotional experiences, such as guilt induction, shaming, and conditional regard (Barber, 1996). Because of the intrusive character of psychological control, it is assumed to be detrimental for adolescents' functioning (Barber & Harmon, 2002). Research has shown convincingly that psychologically controlling parenting is related to higher levels of adolescent problem behavior (see Pinquart, 2016, 2017 for meta-analyses). Adolescents who report higher levels of parental psychological control display more internalizing problems, such as depressive symptoms (Gargurevich & Soenens, 2016) and anxiety (McLeod et al., 2007), and more externalizing problems, such as aggression (Cui et al., 2014) and delinquent behavior (Liga et al., 2017).

Recent studies have shown that psychologically controlling parenting is not entirely a stable parental trait as it fluctuates to a certain degree within parents over time. Diary studies showed that psychologically controlling parenting even varies substantially on a day-to-day basis, with parents reporting ups and downs in their use of psychologically controlling parenting practices (e.g., Mabbe, Soenens, et al., 2018). These short-term changes in psychologically controlling parenting are associated with short-term fluctuations in adolescents' functioning. For instance, it has been shown that on days that parents reported more psychological control, the parents also reported that their child displayed more negative emotions (Aunola et al., 2013). A recent study using child reports of parenting and developmental outcomes showed that daily perceptions of parental psychological control related positively to children's daily ill-being (van der Kaap-Deeder et al., 2017). A multi-informant diary study with adolescents and parents showed that, across informants, daily psychologically controlling parenting was related positively to adolescents' daily internalizing and externalizing problems (Mabbe, Vansteenkiste, et al., 2018). Overall, these studies underscore the importance of considering, apart from between-adolescent differences, also within-adolescent (i.e., between-day) fluctuations in exposure to psychologically controlling parenting in the prediction of maladjustment.

According to Self-Determination Theory (SDT; Ryan & Deci, 2017), adolescents' basic psychological needs play an important role in explaining associations between psychologically controlling parenting and adolescents' maladjustment (Soenens & Vansteenkiste, 2010). SDT states that each adolescent has three basic psychological needs, that is, the needs for autonomy, competence, and relatedness (Vansteenkiste et al., 2020). The need for autonomy entails a sense of volition and inner psychological freedom. The need for competence refers to a sense of mastery and effectiveness. The need for relatedness involves a sense of belongingness and warm and close relationships with significant others. Satisfaction of these needs would contribute to resilience, well-being, and better overall psychosocial adjustment (Ryan & Deci, 2017). When these needs are frustrated, adolescents experience feelings of pressure (autonomy frustration), failure (competence frustration), and loneliness (relatedness frustration). Such experiences of need frustration would increase risk for defensiveness, psychopathology, and general maladjustment (Vansteenkiste & Ryan, 2013). Because psychologically controlling parenting is characterized by domineering and pressuring tactics, in which there is little room for children to take initiative or to share their perspective, psychologically controlling parenting would primarily thwart adolescents' need for autonomy (Grolnick et al., 1997). Psychologically controlling parenting would also yield collateral damage to adolescents' needs for competence and relatedness. Psychologically controlling parenting would suggest at least implicitly that parents have little confidence in the skills and ideas of their

children, thereby inducing feelings of inadequacy (competence frustration). Adolescents may also experience feelings of insecurity and alienation in the parent-adolescent relationship (relatedness frustration) because their parents' love and attention is conditional on the degree to which they attain their parents' standards (Soenens & Vansteenkiste, 2010). Consistent with this reasoning, research has shown that frustration of adolescents' needs for autonomy, competence, and relatedness plays an intervening role in associations between psychologically controlling parenting and adolescents' maladjustment, both in terms of internalizing problems and externalizing problems (Mabbe et al., 2016). On a daily level, diary studies demonstrated that on days that adolescents report more psychologically controlling parenting, they experience more need frustration, and, in turn, display more maladaptive functioning (e.g., daily ill-being; van der Kaap-Deeder et al., 2017).

However, not all adolescents suffer to the same extent from psychologically controlling parenting. Meta-analyses have found substantial variation in the strength of the associations between parental psychological control and behavioral and mental health problems (Pinquart, 2016, 2017; Yan et al., 2020). To gain a better understanding of these differences in adolescents' susceptibility to parental psychological control, it is critically important to examine adolescents' active role in response to such intrusive parenting.

Adolescents' Agency in the Parent-child Relationship: the Role of Coping

Both on the basis of SDT (Ryan & Deci, 2017) and developmental literature (Soenens & Vansteenkiste, 2020), it can be argued that adolescents are not merely passive recipients of psychologically controlling parenting. Adolescents are likely to take matters into their own hands by pro-actively steering their need satisfactions (Laporte et al., 2021) and by reactively coping with possible threats to their basic psychological needs (Legault et al., 2017; Ryan et al., 2019). To examine adolescents' coping with psychologically controlling parenting, the current study relies on a model developed by Skinner et al. (2003), who identified 12 families of coping organized around the three basic psychological needs. Within each need, 4 types of coping are distinguished on the basis of two dimensions, that is, (a) whether adolescents concede or resist the stressor, and (b) whether adolescents respond in an authentic or self-determined fashion (i.e., autonomous) or in a more inauthentic and controlled fashion (i.e., non-autonomous). Because psychologically controlling parenting primarily thwarts adolescents' basic psychological need for autonomy (Soenens & Vansteenkiste, 2010), the current study focuses on adolescents' four styles of coping with autonomy frustration (see Figure 1; Skinner et al., 2003).

Skinner and colleagues' model discerns between four coping styles, two of which are considered non-autonomous and are theoretically assumed to be more maladaptive strategies, and two which are considered

more autonomous in nature and are theoretically assumed to be more adaptive strategies. First, oppositional defiance refers to a blunt resistance against the parental pressure, and even a tendency to do the opposite of what is expected (Van Petegem et al., 2015). Oppositional defiance is considered a non-autonomous form of defence, because adolescents are not driven by their own priorities or wishes, but merely by rebellion and their wish to oppose their parents. Oppositional defiance is typically characterized by anger and resistance (Skinner & Edge, 2002). Second, compulsive compliance involves an unwilling and rigid obedience and submission to the pressuring parental demands. This response typically goes hand in hand with feelings of anxiety and rumination. Because adolescents suppress their own priorities or wishes in order to comply with those of the parent, compulsive compliance is considered a non-autonomous form of concession (Skinner & Edge, 2002).

In addition to these two non-autonomous forms of coping, Skinner and colleagues identified two more autonomous responses. Negotiation refers to a tendency to engage in a constructive dialogue in which adolescents try to find a compromise between the parental demand and their own priorities (Parkin & Kuczynski, 2012). In navigating between their own and the other's point of view, adolescents need to take a flexible and empathic stance. For this reason, negotiation is considered to be an autonomous form of coping (Skinner & Edge 2002). Accommodation involves a genuine acceptance of the parental demand. Adolescents then flexibly put aside or adjust their own preferences or willingly accept and assent the parental request. Accommodation is typically characterized by flexibility, and sincere commitment (Brandtstädter & Rothermund 2002). Because adolescents volitionally endorse the parental constraints, accommodation is considered an autonomous or volitional form of concession.

Research on the consequences of these coping responses is rather limited and has mostly focused on between-person differences in adolescents' exposure to controlling parenting. With respect to the non-autonomous coping strategies, it has been found that oppositional defiance relates positively to both internalizing and externalizing problems (Van Petegem et al., 2015), whereas compulsive compliance has been especially related to internalizing problems (Brenning et al., 2019), suggesting that these strategies are indeed more maladaptive in nature. Research on the autonomous coping strategies has shown that both negotiation and accommodation are negatively related to externalizing problems (Brenning et al., 2019; Flamant et al., 2020), indicating that these coping responses are indeed more adaptive in nature. Only few studies have examined associations between these coping responses and adolescents' adjustment at the within-person level. The few studies available have found that, at the level of within-person change across relatively long periods of time (e.g., one or two years), oppositional defiance relates positively to both internalizing and externalizing problems

(Flamant et al., 2020; Laird & Frazer, 2020), whereas negotiation relates negatively to externalizing problems (Flamant et al., 2020).

Research examining the question whether these coping strategies can alter associations between psychologically controlling parenting and adolescents' functioning is even more scarce. At the between-person level, previous studies found that oppositional defiance exacerbated the association between psychologically controlling parenting and externalizing problems (Flamant et al., 2020), and that adolescents' positive interpretations of perceived psychological control, which reflect their engagement in accommodation, buffered associations between psychologically controlling parenting and depressive symptoms (Cheah et al., 2019). At the level of within-person change across a 1-year interval, it was shown that both compulsive compliance and negotiation exacerbated the association between psychologically controlling parenting and internalizing problems (Flamant et al., 2020).

To date, no studies examined the moderating role of coping while simultaneously taking into account the mediating role of need frustration in associations between psychologically controlling parenting and adolescents' functioning. It can be assumed that adolescents' coping responses moderate the association between psychologically controlling parenting and need frustration, with need frustration in turn relating to more problem behaviors. Such a moderation effect would mean that coping responses affect adolescents' susceptibility to psychologically controlling parenting because they alter the degree to which parental psychological control is perceived as a threat to their psychological needs. To illustrate, because accommodation involves a mental reappraisal of parents' behavior it could lead to a more benign appraisal of psychologically controlling behaviors such that these behaviors are seen to a lesser extent as undermining of the adolescent's needs for autonomy, competence, and relatedness. Conversely, when engaging in oppositional defiance adolescents may be more likely to perceive parental use of psychological control as an illegitimate attempt to restrict their freedom and, as such, as a severe threat to their need for autonomy. In addition to this moderating role in associations between psychological control and need frustration, coping could moderate the direct association between psychologically controlling parenting and adolescents' problem behaviors. As these direct paths reflect immediate, automatic, and unmediated negative consequences of parental psychological control and/or other mediators that co-exist next to need frustration (e.g., more maladaptive emotion regulation), adolescents' coping may also diminish or worsen these direct effects of psychologically controlling parenting. Evidence for such moderating effects, if any, could help to explain why adolescents differ in their susceptibility to psychologically controlling parenting.

Coping with Parental Psychological Control at the Level of Between-Person Differences and at the Level of Short-Term Within-Person Change

Theory (e.g., Curran & Bauer, 2011) and previous research (e.g., Flamant et al., 2020) suggest that coping may exert different effects at different levels of analysis and at different time intervals. Whereas the between-person level represents adolescents' more persistent (i.e., trait-like) use of a coping strategy in confrontation with more routinely high levels of parental psychological control, the within-person level reflects adolescents' temporary coping with a temporary increase in parental psychological control. A daily diary design allows for an investigation of the latter more temporary processes, thereby attending to the way adolescents respond to a daily increase in parental use of psychological control (relative to parents' baseline use of this parenting style). As such, a diary study provides opportunities to examine adolescents' agency in dynamics of psychological control in vivo and at the level of daily parent-child interactions.

Moreover, both from a theoretical and applied perspective, it is important to examine whether the extent to which a certain coping strategy buffers or worsens effects of psychologically controlling parenting depends on the level of analysis at which adolescents' exposure to parental psychological control and their use of a certain coping strategy is examined. For instance, whereas it may be relatively harmless for adolescents to respond to a one-day increase in psychological control with compulsive compliance, the more persistent and general use of this strategy in confrontation with more generally high levels of psychological control may be more problematic. As another hypothetical example, adolescent negotiation may play an effective and protective role in response to daily increases in psychological control, but may be less effective or even dysfunctional when used in response to trait-like elevated levels of psychological control. Parents who more routinely engage in psychological control may indeed react negatively to adolescents' enduring attempts at negotiation because they view these attempts as threats to their authority.

Given these considerations, it is important to examine the effects of coping both at the level of (relatively stable) between-person differences and at the level of within-person, short-term (daily) fluctuations in response to parental psychological control. If it would turn out that the effects of coping differ depending on the level of analysis and time intervals, this observation would be important not only from a fundamental point of view but also from an applied perspective. Adolescents would then perhaps need to be provided with tailored advice about which coping response to use, depending on whether it concerns more routinely elevated levels of parental psychological control or temporary increases in parental psychological control.

Current Study

Although abundant studies have shown that psychologically controlling parenting is detrimental for adolescents' functioning, not all adolescents suffer from such parenting to the same extent. To explain why adolescents differ in their susceptibility to psychologically controlling parenting, it is important to take into account how adolescents deal with such intrusive parenting. The general aim of this study is to examine the moderating role of adolescents' coping with controlling parenting in associations between psychologically controlling parenting and problem behaviors. Theoretically, it can be expected that autonomous coping responses will attenuate associations between perceived parental psychological control and adolescents' maladjustment. In contrast, it is expected that non-autonomous coping responses exacerbate these associations, with oppositional defiance especially exacerbating the association between perceived parental psychological control and externalizing problems and with compulsive compliance especially exacerbating the association between perceived parental psychological control and internalizing problems. This study considers the role of coping with psychologically controlling parenting both at the between-person level and at the level of within-person fluctuations. This approach allows for an examination of the possibility that the (mal)adaptive nature of coping is somewhat different at the daily level than at the between-person level.

Method

Sample and Procedure

Adolescents and either their mother or father took part in a multi-informant diary study for 7 consecutive days, from Saturday to Friday. The sample consists of 161 Belgian adolescents (M age = 15.56 years, SD = 1.14, range = 13-18; 61.5% female) and either their mother (n = 94 mothers, 58.4% of the sample; M age = 46.09 years, SD = 4.20, range = 32-57) or their father (n = 62 fathers, 38.5% of the sample; M age = 47 years, SD = 5.78, range = 32-64). For 5 adolescents, none of their parents participated in the study. Most of the adolescents were enrolled in an academic track (57.8%) or a technical track (35.4%), whereas 5.6% followed a vocational track. 81.4% of the participating families were intact, implying that the parents were either married or living together, whereas 18.6% of the sample reported to live in a non-intact family, indicating that the parents were divorced, single, or widowed.

The participating families were recruited as part of an undergraduate course in developmental psychology. After an intensive one-hour training session, each student was asked to contact one nonrelative family with at least one child in the 9th to 12th grade. About half of the students were instructed to invite the mother in the family to participate and the other half received instructions to invite the father to participate. During a home visit, students asked the participating members of the family to fill out a baseline questionnaire,

which was administered online. Next, they explained to the participating family members how to complete the diary questionnaires, which were also administered online and had to be filled out every evening for seven consecutive days of a regular school week in November 2020, starting from Saturday. It was ensured that the documents provided to the parents and adolescents contained sufficiently detailed and clear information about how to fill out the questionnaires. The role students played in this study was rather limited and straightforward. That is, each student recruited two families, informed these families about the purpose of the study, and provided these families with concrete instructions on how to fill out the questionnaires. Students did not have to do home observations or interviews with the family members. Their task was simply to instruct families on how to fill out the questionnaires, which were provided in a standardized format with clear instructions. There was little room for errors on the part of the student because the instructions given on the questionnaires themselves were sufficiently detailed and clear for the families to be able to participate in this study.

To avoid drop-out, and to remind participants to complete the questionnaire, text messages were sent to the participants. Before conducting the study, active informed consent was obtained from all participants. Participants were informed that participation was completely voluntary and that they were allowed to withdraw at any time from the study. Confidentiality and anonymity were guaranteed to the participants, given that none of their answers would be communicated in any form to the other involved member of the study. In the baseline assessment, two adolescents (1.3%) and 13 parents (8.2%) did not participate. Regarding the daily assessments, 1.2%, 1.9%, 1.9%, 1.2%, 1.9%, 7.6%, and 18.4% of the adolescents' data and 1.2%, 1.2%, 1.9%, 1.9%, 2.5%, 4.4%, and 7.6% of the parents' data were missing at day 1, day 2, day 3, day 4, day 5, day 6, and day 7, respectively. Little's missing completely at random test (Little's MCAR-test; Little 1998) showed that the data in the sample were completely missing at random (Little's MCAR-test, $\chi^2(1317) = 1364.9; p = .18$). Therefore, it was decided to rely on Full Information Maximum Likelihood (FIML; Woithke, 2000), which uses all available data points, even for participants with missing data. As a result, statistical power is maximized. This study was approved by the university's Ethical Committee of the Faculty of Psychology and Educational Sciences of Ghent University (2019/71).

Measures

Baseline questionnaire.

Psychologically controlling parenting. To measure adolescents' general perceptions of psychologically controlling parenting, adolescents completed the Dutch translation of the Perceived Parental Autonomy Support Scale (P-PASS; Mageau et al., 2015). The scale assessing psychologically controlling parenting consisted of 12

items (e.g., “When my father / mother wants me to behave differently, he / she makes me feel guilty.”). Items from this scale were rated on a 7-point Likert scale, ranging from 1 (*completely incorrect*) to 7 (*completely correct*). Cronbach’s alpha for this scale was .87.

Coping responses. Adolescents were administered a 22-item questionnaire measuring how they generally deal with controlling parenting (Van Petegem et al., 2017). In the instructions they were asked to reflect on situations in which their parents were pressuring them. Next, they were asked to rate how they typically deal with such pressure, followed by items tapping into four coping responses: oppositional defiance, compulsive compliance, negotiation and accommodation. All items were scored on a 5-point Likert scale, ranging from 1 (*totally disagree*) to 5 (*totally agree*). Adolescents completed 4 items to assess oppositional defiance (e.g., “I do the exact opposite of what I was told to do.”), 7 items to assess compulsive compliance (e.g., “I anxiously do what my parents want me to do.”), 5 items to measure negotiation (e.g., “I explain why I do not agree with their advice or help.”) and 6 items to assess accommodation (e.g., “I try to understand that my parents mean well.”). Because the original reliabilities of these scales were rather low, a confirmatory factor analysis was performed. For most items, the factor loadings were high and significant (ranging from .36 to .86). There were three items with low (close to zero) or even non-significant loadings and these items were dropped: one item for oppositional defiance (“I simply reject what is asked of me”) and two items for compulsive compliance (“I do not see another option than to obey” and “I obediently listen”). It was decided to drop one extra negotiation item (“I try to reach a consensus with my parent”) as modification indices displayed high correlations between this item and the other coping constructs. The final scales consisted of 3 items for oppositional defiance, 5 items for compulsive compliance, 4 items for negotiation, and 6 items for accommodation. A confirmatory factor analysis for the adapted scales showed highly significant loadings for the retained items. The reliability of these adapted scales was still modest yet acceptable given the limited number of items, with Cronbach’s alpha values for oppositional defiance, compulsive compliance, negotiation and accommodation being .63, .65, .81 and .75, respectively.

Daily measures.

Daily psychologically controlling parenting. To assess daily perceptions of parental psychological control, adolescents completed a shortened version of the P-PASS used in the baseline measurement. Items that were most suitable to a diary assessment because they reflected parental behaviors that can occur on a daily basis (rather than reflecting a more general parental attitude) were selected. This shortened version consisted of 6 items. An example item is “Today, when my mother / father wanted me to change my behavior, she / he made

me feel guilty”. Reliability of this scale was good with Cronbach’s alpha values ranging from .76 to .83, with an average Cronbach’s alpha of .80.

Daily psychological need frustration. To measure adolescents’ daily need frustration, adolescents completed a diary version (Mabbe, Soenens, et al., 2018) of the Basic Psychological Need Satisfaction and Need Frustration Scale (BPNSNFS; Chen et al., 2015). For each need as identified in SDT, adolescents completed two items to report on their feelings of need frustration, resulting in 6 items in total. Sample items for respectively autonomy frustration, competence frustration, and relatedness frustration were “Today, I felt forced to do many things I wouldn’t choose to do.”, “Today, I often had doubts about whether I’m good at things”, and “Today, I felt excluded from the group I want to belong to.”. All items were scored on a 5-point Likert scale, going from 1 (*totally disagree*) to 5 (*totally agree*). Across the seven days, Cronbach’s alphas ranged between .72 and .79, and was on average .74.

Daily coping responses. To assess adolescents’ daily coping when faced with parental controlling parenting, adolescents were administered a shortened version of the coping questionnaire used in the baseline measurement. After adolescents read a general item stem: “Today, when I had the feeling my parents were pressuring me, then ...”, 12 items were administered tapping into the four coping responses, with each coping response being assessed with 3 items. Sample items for respectively oppositional defiance, compulsive compliance, negotiation and accommodation were “..., I did the exact opposite of what I was told to do.”, “..., I dared nothing but obey”, “..., I talked about this with my parent.”, and “..., I tried to understand that my parents mean well”. Reliabilities of respectively oppositional defiance, compulsive compliance, negotiation and accommodation were on average .73 (ranging from .57 to .81), .68 (ranging from .57 to .76), .78 (ranging from .70 to .83) and .80 (ranging from .75 to .89).

Daily problem behavior. Both adolescents and their parents completed measures to assess adolescents’ daily externalizing and internalizing problems. Adolescents completed a shortened version of the Youth Self-Report (YSR; Achenbach, 1991). Externalizing problems were assessed using 4 items to tap into aggressive behavior (e.g., “Today, I was mean to others.”), and 3 items tapping into rule breaking (e.g., “Today, I lied.”). Internalizing problems was assessed using 3 items tapping into withdrawal (e.g., “Today, I preferred being alone than with others.”). Items were selected from the withdrawal subscale in the YSR because withdrawal symptoms are more visible to parents than other internalizing symptoms (such as anxiety). Parents completed the same items as their children, based on the Child Behavioral Checklist (CBCL; Achenbach, 1991). Similar to adolescents’ report, the 4 items tapping into children’s aggressive behavior (e.g., “Today, my child was mean to

others.”), and the 3 items tapping into children’s rule breaking (e.g., “Today, my child lied.”) were combined to create an overall score for externalizing problems, whereas the 3 items tapping into children’s withdrawal (e.g., “Today, my child preferred being alone than with others.”) represented internalizing problems. All items were administered on a 5-point Likert scale, going from 1 (*totally disagree*) to 5 (*totally agree*). Previous diary studies already demonstrated the psychometric quality and validity of these brief daily measures in Dutch samples (e.g., Mabbe, Vansteenkiste et al., 2018). Moreover, the scales were correlated in theoretically predicted ways with dimensions of adolescents’ personality. Reliabilities of respectively adolescent-reported externalizing problems, adolescent-reported internalizing problems, parent-reported externalizing problems, and parent-reported internalizing problems were on average .77 (ranging from .71 to .87), .88 (ranging from .84 to .90), .85 (ranging from .80 to .90) and .88 (ranging from .84 to .91).

Plan of Analysis

The main research questions were examined using multilevel models in Mplus 8.4. Because the data had a nested structure (i.e., multiple measurements within each individual), it was first examined whether multilevel models were appropriate. To this aim, intra-class correlations (ICC) for the study variables were calculated by estimating intercept-only models. These models allow for a disaggregation of the variation in the data into variation at the between-person level, which reflects differences between adolescents, and variation at the within-person level, which reflects the day-to-day differences within adolescents. Table 2 shows the amount of variation at the between- and within-person level, and the corresponding ICCs for the study variables. Because there is substantial variation at both levels of analyses, multilevel models were indeed appropriate to examine the hypotheses.

In the main multilevel models, the general measures of parental psychological control and coping (as measured in the baseline questionnaire) were added in the equations at the between-person level (reflecting more enduring levels of these variables) and the daily measures of parental psychological control and coping were added in the equations at the within-person level (reflecting daily ups and downs in these variables). All models were tested separately for parents’ and adolescents’ reports of internalizing and externalizing problems because research has shown that there are significant discrepancies between parent-reports and adolescent-reports of these problems (Rescorla et al., 2013), and because correlations in the data between adolescent-reported and parent-reported outcomes were small to moderate.

In a first step, multilevel models including indirect associations from parental psychological control to adolescents’ outcomes (internalizing and externalizing problems) through adolescents’ need frustration were

estimated. Next, in each of the models tested, the main effects of coping on adolescents' need frustration and on adolescents' problem behaviors were added. Finally, interaction terms between the coping responses and perceptions of psychological control in the prediction of need frustration and problem behaviors were added. This final model was a moderated mediation model with similar equations tested both at the between- and within-person level (see Figure 2). Such a moderated mediation model assumes that the strength of an indirect path (in this case from parental psychological control to adolescent outcomes via need frustration) is moderated by another variable (in this case coping) (Edwards & Lambert, 2007). The model included not only effects of the interactions between coping and parental psychological control on adolescents' need frustration (a-path), but also on adolescents' outcomes (direct paths). To avoid overly complex models and unstable parameter estimations, a separate model for each of the coping responses was estimated, resulting in 8 models in total (i.e., 4 for adolescent-reported outcomes and 4 for parent-reported outcomes). In all models, relevant control variables (including parental gender) were entered.

Results

Preliminary Analyses

Table 1 shows the reliabilities of the daily measures as well as the descriptive statistics of the study variables and their correlations at the between- and within-person level. The reliability of the daily measures was generally adequate. Both in general and on a daily level, adolescents reported to rely most on negotiation and accommodation and least on oppositional defiance when confronted with parental psychological control. With respect to associations between the coping responses and adolescents' problem behaviors, at the between-person level, oppositional defiance and compulsive compliance were related positively to adolescents' need frustration, whereas negotiation was related negatively to parent-reported internalizing problems, and accommodation related negatively to adolescent-reported externalizing problems. At the within-person level, oppositional defiance and compulsive compliance were related positively to most indicators of adolescents' maladjustment whereas negotiation and accommodation were unrelated to adolescents' maladjustment.

Next, it was examined whether background variables had an effect on the study variables. At the between-person level, the role of adolescents' and parents' age, adolescents' and parents' gender, family structure (intact versus non-intact), and type of education (academic versus technical versus vocational track) was examined. At the within-person level, the role of type of day (a school day versus a weekend day) was examined. The results showed that adolescent gender had a significant effect on psychological control ($B = -0.43, p = .007$), compulsive compliance ($B = 0.29, p = .009$), and need frustration ($B = 0.34, p < .001$), indicating

that boys reported more parental psychological control, less compulsive compliance, and less need frustration than girls. Furthermore, adolescents' age displayed a significant effect on accommodation ($B = -0.10, p = .029$), need frustration ($B = 0.08, p = .037$), and externalizing problems ($B = 0.08, p = .008$). Older adolescents reported lower levels of accommodation, higher levels of need frustration, and higher levels of externalizing problems. There were no significant effects of parents' age or gender on the study variables. Family structure had a significant effect on perceived psychological control ($B = -0.45, p = .024$), indicating that adolescents living in intact families reported higher levels of parental psychological control than adolescents living in non-intact families. Type of education was related to parent-reported internalizing problems ($B = 0.29, p = .035$), indicating that parents reported higher levels of internalizing problems when their child followed a vocational track than when their child followed an academic or technical track. Finally, the results showed that type of day had an effect on need frustration ($B = 0.24, p < .001$), adolescent-reported internalizing problems ($B = -0.30, p < .001$), and parent-reported internalizing problems ($B = -0.12, p = .022$). Adolescents experienced more need frustration and less internalizing problems on a school day than on a weekend day. Based on these results, it was decided to control for the relevant background variables in the main analyses.

Main Analyses

Step 1. Prior to addressing the role of coping, a model (tested separately for the adolescent- and parent-reported outcomes) with indirect associations of parental psychological control with adolescents' problem behaviors through adolescents' need frustration was estimated. The results of these models can be found in Figure 3 and Table 3. As can be seen, at the between-person level, parental psychological control was related indirectly to adolescent-reported internalizing problems through adolescents' need frustration, but not to adolescent-reported externalizing problems. At the within-person level, parental psychological control was related indirectly to adolescent-reported externalizing problems and internalizing problems through adolescents' need frustration. There were no indirect associations between parental psychological control and parent-reported problem behaviors. The results did show a direct association between parental psychological control and parent-reported externalizing problems, but only at the between-person level.

Step 2. In a next step, the main effects of coping in the models were added. At the between-person level, adolescents' accommodation was related negatively to adolescent-reported externalizing problems ($B = -0.13, p < .05$), whereas oppositional defiance, compulsive compliance and negotiation did not display main effects on adolescents' problem behaviors. At the within-person level, oppositional defiance was related positively to adolescents' need frustration ($B = 0.14, p < .01$), adolescent-reported externalizing problems ($B = 0.16, p <$

.001), parent-reported externalizing problems ($B = 0.05, p < .05$) and internalizing problems (only adolescent-reported) ($B = 0.23, p < .001$), whereas compulsive compliance, negotiation and accommodation did not display main effects on adolescents' problem behaviors.

Step 3. In a final step, moderated mediation models were estimated in which interactions were included between the coping responses and parental psychological control on need frustration, which in turn was modelled as a predictor of the outcomes. These models also included direct effects from the interactions to the outcomes. There was no evidence that coping strategies moderated the indirect or direct paths from parental psychological control to adolescents' problem behaviors at the between-person level.

At the within-person level, there were two moderated mediation effects. Both compulsive compliance ($B = -.03, p = .04$; see Figure 4A) and accommodation ($B = -.05, p = .02$; see Figure 4B) buffered the positive association between perceived parental psychological control and need frustration, which then related to adolescents' problem behaviors. In Table 4, the indirect effects from parental psychological control to adolescents' problem behaviors through adolescents' need frustration for low, moderate, and high levels of compulsive compliance and accommodation are reported. This table shows that the indirect associations between perceived parental psychological control and adolescents' problem behaviors through need frustration were less pronounced (yet still significant) at higher levels of compulsive compliance and accommodation.

In addition to these two moderated mediation effects, there was one direct moderation effect on the outcomes at the within-person level. Accommodation exacerbated the association between psychologically controlling parenting and parent-reported internalizing problems. As can be seen in Figure 5, a positive association was found between daily perceived parental psychological control and parent-reported internalizing problems, but only for adolescents who report high levels of accommodation that day ($B = .09, p = .01$).

Sensitivity Analyses

A first series of sensitivity analyses involved testing whether the current results could be replicated using a different outcome variable. In addition to their daily reports of internalizing and externalizing problems, adolescents (but not parents) provided daily reports of negative affect, as measured with 8 items (e.g., "Today, I felt sad") from the Positive and Negative Affect Scale (PANAS: Watson, et al., 1988). This outcome was not included in the main analyses because it was rated only by adolescents. To examine whether the main findings would replicate with this outcome, first a multilevel model including the indirect association between parental psychological control and adolescents' negative affect through adolescents' need frustration was estimated. Similar to the main findings obtained with adolescent-reported internalizing problems, perceived parental

psychological control was positively associated to adolescents' negative affect through need frustration, both at the between- ($B = .07, p < .001$), and within-person level ($B = 0.09, p = .04$). At the within-person level, there remained a significant direct association between parental psychological control and negative affect ($B = .12, p < .01$). Next, the main effects of coping were added. Similar to the main analyses, oppositional defiance related positively to adolescents' need frustration at the within-person level. No other main effects of coping were found. Finally, moderated mediation models (one model per coping strategy) again revealed interaction effects on the indirect association between parental psychological control and negative affect (through need frustration). Again, compulsive compliance and accommodation buffered the positive association between perceived parental psychological control and need frustration, which then related to adolescents' negative affect. Additionally, there were two moderating effects on the direct association between parental psychological control and negative affect. At the between-person level, the results showed that adolescents reported the lowest levels of negative affect when they were low on oppositional defiance and at the same time experienced low levels of psychologically controlling parenting ($B = -.10, p = .05$). The simultaneous absence of these two risk factors indeed related to the lowest levels of negative affect (see Figure 1A in the Appendix). At the within-person level, the results showed that negotiation exacerbated the direct positive association between perceived parental psychological control and negative affect ($B = .08, p = .002$; see Figure 1B in the Appendix).

In a second series of sensitivity analyses, it was explored whether the moderating effects of coping differed according to the gender composition of parent-adolescent dyads. Specifically, unconstrained models [in which differences between the four types of dyads (i.e., mother-son, mother-daughter, father-son, father-daughter) were allowed] were compared with constrained models (in which differences between the four different types of dyads were not allowed). These analyses were conducted for eight models (4 coping strategies x 2 informants). In 6 of the 8 moderated mediation models, there was no significant difference between the constrained and unconstrained models, indicating that there were no systematic gender differences. Specifically, gender did not affect any of the moderating effects of coping that were significant in the total sample (Figures 4-5). As such, the moderating effects detected in the main analyses applied across all types of gender composition dyads. A gender difference was found in the interaction effects between psychologically controlling parenting and oppositional defiance in the adolescent-reported outcome model and between psychologically controlling parenting and accommodation in the parent-reported outcome model (see Table 1 in the Appendix). In the model with oppositional defiance and adolescent-reported outcomes, oppositional defiance displayed a moderating (exacerbating) effect on the within-person association between psychological control and need frustration in

father-son dyads only ($B = 0.12$) and on the within-person association between psychological control and externalizing problems in mother-daughter dyads only ($B = 0.10$). In the model with accommodation and parent-reported outcomes, accommodation displayed a moderating (exacerbating) effect on the within-person association between psychological control and externalizing problems in father-son dyads only ($B = 0.14$). These results suggest that there may be some gender differences in the role of coping with controlling parenting. These results should be interpreted cautiously as the sample size of the current study was not sufficiently large to examine such gender differences with sufficient statistical power.

Discussion

Abundant research has shown convincingly that psychologically controlling parenting is detrimental to adolescents' adjustment (Soenens & Vansteenkiste, 2010; Scharf & Goldner, 2018). Yet, meta-analyses have also reported substantial heterogeneity in the degree to which and in the way psychologically controlling parenting elicits problem behaviors in adolescents (Pinquart, 2016, 2017; Yan et al., 2020). To better understand this heterogeneity, the current study considered the active role of adolescents' coping with psychologically controlling parenting. The key research question was whether adolescents' coping with controlling parenting affects the degree to which they suffer from parental psychological control.

The Mediating Role of Adolescents' Need Frustration

Prior to discussing the role of adolescents' coping, the SDT-based prediction that psychological need frustration plays a key intervening role in associations between psychologically controlling parenting and adolescents' problem behavior was addressed (Soenens & Vansteenkiste, 2010). Although this presumed intervening role of need frustration has been demonstrated in a number of cross-sectional studies (e.g., Cordeiro et al., 2018), this study examined the intervening role of need frustration for the first time at the level of daily associations.

With respect to the adolescent-reported outcomes, the results confirmed expectations and showed that psychologically controlling parenting was related positively to adolescents' need frustration which, in turn, was related positively to adolescent-reported problem behaviors. Most indirect effects were significant both at the between- and within-person levels of analysis. At the between-person level, these results indicate that adolescents who generally perceive higher levels of psychologically controlling parenting than others are more likely to report high levels of need frustration, and, in turn, high levels of internalizing problems in particular. At the within-person level, these results indicate that on days that adolescents perceive an increase in

psychologically controlling parenting, they report an increase in need frustration, and a corresponding increase in problem behaviors.

In addition to these indirect effects, there were also significant direct associations of psychologically controlling parenting with adolescents' internalizing problems at the within-person level, and with externalizing problems both at the within- and between-person level. Although one can only speculate about the underlying mechanisms of these direct effects, they may represent other mediators that co-exist next to need frustration (e.g., more maladaptive emotion regulation; Cui et al., 2014). Alternatively, these remaining direct associations may also reflect child effects. Meta-analyses have indeed shown that adolescents' problem behavior can also elicit psychologically controlling parenting (Pinquart, 2016, 2017).

In the model with parent-reported outcomes many associations between psychologically controlling parenting and adolescents' problem behaviors were non-significant. There was only a small, but significant, direct association between perceived parental psychological control and externalizing problems at the between-person level. No other associations were significant. These results are not entirely unexpected. Indeed, studies have shown that parents are not always able to accurately assess adolescents' problem behaviors (e.g., Rescorla et al., 2013), which could explain the discrepancies between the adolescent-reported and parent-reported models. Also in the current data, correlations between adolescent-reported and parent-reported outcomes were moderate at the between-person level, and even small at the within-person level. Parents appear to have a particularly difficult time adequately perceiving their adolescent's feelings and behaviors on a daily basis, which may also explain why there were no associations between perceived psychologically controlling parenting and parent-reported daily outcomes. Although parents and adolescents do converge to some extent in their appraisal of the adolescent's adjustment across a 7-day period, they have more diverging perspectives on a given day. Within a given day, certain problems may not be directly visible to parents, for instance because adolescents spent most of their time with peers rather than with parents or because adolescents with problems withdrew and were secretive (Soenens et al., 2019). Because of these typical adolescent behaviors, it may sometimes become clear to parents only later how the adolescent felt and behaved on a given day. As a result, parents' reports would become more accurate across a period of several days.

Adolescents' Coping with Psychologically Controlling Parenting

The main aim of the current study was to examine the role of adolescents' coping in associations between perceived psychologically controlling parenting and adolescents' problem behaviors through adolescents' need frustration. Interestingly, each coping strategy displayed significant variation within

adolescents, suggesting that adolescents' coping is not necessarily a stable trait, but a resource that fluctuates across days. This observation may be important from an applied perspective, as it suggests that adolescents' coping is, similar to other self-regulation strategies (e.g., need crafting, Laporte et al., 2022; mindfulness, Cobler et al., 2022), susceptible to change and therefore a potential target of interventions.

Each coping strategy displayed a unique pattern of main and moderation effects, with some effects being theoretically predicted and others more unexpected. First, oppositional defiance was found to be a rather maladaptive coping strategy in terms of main effects but not in terms of moderation effects. At the within-person level (but not at the between-person level), oppositional defiance showed positive associations with need frustration, and both externalizing and internalizing problems, indicating that on days adolescents display increases in oppositional defiance, they simultaneously experience increases in need frustration and problem behavior. Although it was anticipated that oppositional defiance would exacerbate effects of psychologically controlling, this was not the case. To better understand this surprising lack of exacerbating effects of oppositional defiance, future research would do well to distinguish even more clearly between oppositional and reflective defiance (Aelterman et al., 2016; Haerens et al., 2016). Whereas oppositional defiance is non-autonomous in nature, as it results from the desire to defy the others' wishes, reflective defiance reflects a more autonomous form of defiance, in which adolescents decide to oppose the parents after giving it thorough consideration. Whereas oppositionally defiant adolescents would oppose their psychologically controlling parents to retaliate against them, adolescents displaying more reflective defiance may volitionally oppose their psychologically controlling parents because they realize that their parents' manipulative tactics conflict with their own personal values and priorities. High levels of oppositional defiance may lead to maladjustment, because these adolescents simply resist any parental request without serious consideration of the request in relation to their personal values and interests. In contrast, high levels of reflective defiance may result in better adjustment, as these adolescents do consider the pressuring parental requests in light of their personal preferences, thereby displaying more authenticity and volition while distancing themselves from the psychologically controlling parental environment. Possibly, some adolescents in the current sample interpreted the items for oppositional defiance also to some extent in terms of reflective defiance, thereby suppressing the expected exacerbating moderation effects. Future research that includes a measure differentiating more explicitly between oppositional and reflective defiance may shed more light on the (mal)adaptive character of defiance in the context of psychologically controlling parenting (Vansteenkiste et al., 2014).

Second, the results failed to support the hypothesis that compulsive compliance would play a rather maladaptive role. There were no main effects of compulsive compliance on adolescents' maladjustment, neither at the between-person level, nor at the within-person level. Previous research in the context of psychologically controlling parenting also did not find main effects of compulsive compliance on adolescents' problem behavior (Flamant et al., 2020). The maladaptive nature of compulsive compliance was expected to be particularly visible in terms of an exacerbating moderation effect. Although there was evidence for a significant interaction effect involving compulsive compliance, this effect was not in line with predictions. Specifically, compulsive compliance buffered associations between psychologically controlling parenting and adolescents' need frustration at the within-person level. On days that adolescents respond to a perceived increase in psychologically controlling parenting with compulsive compliance, they report experiencing less need frustration. In turn, lower need frustration is related to less problem behaviors, suggesting that compulsive compliance is a relatively adaptive coping strategy at the daily level. This finding is surprising because compulsive compliance involves suppression of adolescents' own values and priorities in order to obey the parents (Skinner & Edge, 2002), a strategy that would be detrimental to adolescents' need for autonomy in particular. Possibly, because compulsive compliance results in adherence to the parental wishes, this coping response does result in more momentary satisfaction of the needs for relatedness and competence. Indeed, when psychologically controlling parents notice that their adolescent complies with the parental requests, they may react in a loving and affectionate way and provide positive feedback about adolescent's behavior. Such an increase in parental love and positive feedback after adolescents display desired behavior, which may reflect conditional positive regard, may represent a threat to adolescents' psychological needs only in the long run (Assor et al., 2014). Possibly then, compulsive compliance is especially maladaptive when it is used on a more general and persistent basis. Indeed, a recent two-year longitudinal study found that compulsive compliance worsened effects of psychologically controlling parenting on internalizing problems (Flamant et al., 2020). As the design of the current study did not allow us to examine more long-term use of coping strategies, future research may try to gain more insight into the time-dependent role of compulsive compliance.

Third, given that accommodation is an autonomous and constructive coping strategy (Skinner et al., 2003), accommodation was expected to be beneficial for adolescents' adjustment. This expectation was largely confirmed. At the between-person level, and in line with the results from Brenning et al. (2019), accommodation was related negatively to externalizing problems. More importantly, accommodation was found to moderate effects of psychologically controlling parenting in the anticipated adaptive ways, thereby playing a buffering

role. At the within-person level, accommodation buffered the association between perceived parental psychological control and adolescents' need frustration. Through this buffering role in need frustration, accommodation also buffered the indirect associations between psychological control and adolescents' problem behaviors (i.e., moderated mediation). In other words, on days that adolescents respond with accommodation to an increase in perceived parental psychological control, they suffer less from need frustration. It is important to note that even on days that adolescents report high levels of accommodation, the associations between perceived parental psychological control and need frustration are still positive and significant, suggesting that the beneficial effects of accommodation do not entirely cancel out (let alone reverse) the detrimental effects of parental control. The buffering role of accommodation is only partial. Possibly, adolescents need to combine accommodation with other coping strategies to be better protected against psychologically controlling parenting, thereby deploying multiple coping strategies flexibly (Cheng et al., 2014). Although accommodation is considered an autonomous and potentially adaptive coping strategy, it may be ineffective and even lead to frustration, especially in the longer run, when it is used too one-sidedly and persistently (Zimmer-Gembeck et al., 2018). Considered from the perspective of Thomas and Kilman's (1974) model of conflict management styles, accommodation reflects a strong degree of concern for others (i.e., the parents' needs), that may come at the expense of one's own needs at some point. Indeed, when adolescents would rigidly rely upon accommodation alone, they may risk alienation of their own values and priorities (Van Petegem et al., in press).

In addition to the expected buffering effect of accommodation on need frustration, this coping response also had a more unexpected moderating effect directly on one of the outcomes. On days that adolescents report higher levels of accommodation, there is a positive association between perceived parental psychological control and parent-reported internalizing problems. Because this moderating effect occurred with a parent-reported outcome only (and not with the corresponding adolescent-report), it may primarily reflect an effect of parental attribution. The interaction may then indicate that parents high on psychological control may more easily interpret the adolescent's accommodation as signalling internalizing problems. When adolescents accommodate, they are likely to be silent and not say much about the parent's controlling requests. The parent may then see this silence as an indication of internal distress, a possibility that is especially likely because internalizing problems were operationalized as withdrawal behavior in the current study. Future research is needed to test this speculative explanation and, more generally, to gain more insight into how accommodation is perceived by parents and how this perception affects their own parenting behavior in turn.

Finally, in contrast with theoretical predictions, negotiation did not yield adaptive effects. There were no main effects of negotiation on adolescents' outcomes. This was not completely surprising as previous studies have also yielded mixed results. Indeed, a recent study found a negative correlation between negotiation and externalizing problems, yet a positive association with internalizing problems (Flamant et al., 2020), and other studies found no associations between negotiation and adolescents' problem behavior (e.g., Brenning et al., 2019). The sensitivity analyses further showed a significant, yet unexpected, interaction between perceived psychologically controlling parenting and negotiation in the prediction of negative affect at the within-person level. This effect indicates that on days when adolescents perceive an increase in parental psychological control, and they respond to this through negotiation, they suffer more from this increase in parental psychological control in terms of negative affect than when they would not respond through negotiation. Although this effect is in contrast with theorizing about negotiation (Skinner & Edge, 2002), it is in line with a number of previous findings. Previous research found that adolescents' negotiation worsened the longitudinal effects of psychologically controlling parenting on internalizing problems (Flamant et al., 2020). They suggested that negotiation could indeed be detrimental for adolescents, because the success of adolescents' negotiation may be highly dependent on the response of the parent. When parents react negatively to adolescents' well-intended negotiation attempts, adolescents may feel let down and display increases in negative affect. Possibly, because parents high on psychological control are more likely to deny adolescents' perspective and agentic participation (Barber, 1996), they are more likely to appraise adolescents' negotiation as rude and inappropriate, and to respond negatively towards it. Future research needs to gain more insight in how adolescents' negotiation is perceived by parents, and which mechanisms contribute to or hinder a successful negotiation between parents and adolescents.

Limitations and Suggestions for Future Research

Although the current study had several strengths, such as the multi-informant diary design, there are also a few limitations that should be addressed. First, based on the current results, no causal inferences or conclusions about direction of effects could be made. Most likely, parental psychological control and adolescents' coping are intertwined bidirectionally. On days that parents report higher levels of psychological control, adolescents would be more likely to respond with oppositional defiance (Van Petegem et al., 2015), which, possibly, could in turn elicit a more psychologically controlling response in parents, resulting in a vicious cycle of detrimental parent-adolescent interactions. To explore this idea with the current data, a random intercept cross-lagged panel model was estimated, examining the bidirectional interplay between psychologically

controlling parenting and oppositional defiance, the coping strategy for which a bidirectional relation is most obvious. However, the results were rather inconsistent and there was no robust indication that psychological control and oppositional defiance elicit each other across days (see Figure 2 in the Appendix). Possibly, such transactional dynamics are more likely to occur within days instead of manifesting in carry-over effects from one day to the next. Perhaps the latter carry-over effects occur only under specific circumstances, such as when parents display high trait levels of psychological control. Indeed, when trait levels of psychological control are already high, an additional increase in psychological control on a given day may elicit a stronger adolescent reaction that resonates even the next day (Mabbe, Vansteenkiste, et al., 2018). Similarly, oppositional defiance on a given day may elicit more parental psychological control the next day only when adolescents display dispositionally high levels of oppositional defiance. To examine such more complex transactional dynamics, future research would do well to rely on experience-sampling methodology, thereby examining the possibility of within-day transactions as well as the possibility of carry-over effects in the case of high trait levels of psychological control or coping.

Second, the reliability of some measures was rather modest. This is mostly due to the limited number of items used per construct given the diary design of the study. This modest reliability is likely to have suppressed some of the potential effects of the coping responses. Future research could try to replicate the current findings with somewhat longer and more reliable scales.

Third, whereas externalizing problems were measured with a combination of items tapping into aggressive behaviour and items tapping into rule-breaking, the measure of internalizing problem behavior was more limited and was solely based on items tapping into withdrawal behavior. It was decided to focus on withdrawal (rather than also anxious/depressed experiences) because the current study relied on a multi-informant approach and withdrawal is the most visible indicator of adolescents' internalizing problems. However, future research could try to include a more broad and comprehensive assessment of internalizing problems.

Fourth, participants in this study were recruited by undergraduate psychology students. Although the students were instructed not to invite close relatives of the student, and although their overall role in the study was rather limited and straightforward, the recruitment strategy used may have led to more biased responses in participants. Relatedly, it is likely that students recruited participants who were rather similar to themselves in terms of demographic characteristics, which also caused the sample to be relatively homogeneous. This in turn limits the generalizability of the current findings (Bornstein et al., 2013). Therefore, it would be interesting for

future research to replicate the results of the current study using different recruitment strategies and with attention for more diversity in the sample.

Finally, the design of the current study did not allow us to examine the effects of adolescents' more long-term use of coping strategies. Although the baseline measures asked adolescents about their general exposure to psychological control and their habitual engagement in coping response, it is unclear exactly which time frame the adolescents had in mind when responding to these questions. Longitudinal studies with varying intervals (short-term, intermediate, and long-term) are needed to gain more detailed insight into how the nature of coping differs depending on the time-scales in which a specific coping strategy is used.

Conclusion

Although ample studies have shown that psychologically controlling parenting is detrimental for adolescents' functioning, meta-analyses also reported substantial heterogeneity in such associations. To better understand why adolescents differ in the degree to which they are susceptible to psychologically controlling parenting, the present study considered the role of adolescents' coping with such parenting. Specifically this study examined whether adolescents' coping strategies can alter direct and indirect associations between perceived parental psychological control and their maladjustment (i.e., through psychological need frustration). Largely in line with theorizing, accommodation played a relatively adaptive role. Unexpectedly, compulsive compliance also seemed to be beneficial for adolescents' adjustment on a daily basis, and negotiation was found to be a rather detrimental coping strategy. Overall, the number of moderating effects of the coping strategies was somewhat limited and quite a few effects were unexpected. This pattern of results indicates that the role of coping with psychological controlling in adolescents' adjustment is more complicated than initially assumed. As such, the current results perhaps raise more questions than answers. Future research is needed to examine the conditions that determine the effectiveness of the coping strategies, including the possibility that their effects are time-dependent or dependent on the parent's subsequent appraisal and response to the adolescent's coping strategy. Another possibility worth considering is that different combinations of coping responses have differential repercussions for their susceptibility to parental psychological control. A more person-centered approach may yield more insights in this possibility. Clearly, more research about the complex role of coping in psychologically controlling parenting is needed before interventions aimed at strengthening adolescents' resilience to such intrusive parenting can be informed.

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Table 1.

Correlations and Descriptive Statistics for all Study Variables at the Between (below the diagonal) and Within Person-Level (above the diagonal).

	1	2	3	4	5	6	7	8	9	10	M	SD
1. Perceived PCP	-	.21***	.16***	.11*	.03	.15***	.19*	.13**	.11	.04	1.60	0.87
2. Oppositional defiance	.16*	-	.39***	.20***	.02	.16***	.27***	.24***	.13**	.07	1.56	0.74
3. Compulsive compliance	.06	.25***	-	.16**	.20***	.06	.16***	.13***	.08*	.002	2.02	0.86
4. Negotiation	-.11	.35***	.11	-	.37***	.03	.07	.04	.04	-.03	2.68	1.10
5. Accommodation	.01	-.34***	-.19*	-.001	-	.01	.04	.01	.00	.003	3.02	1.12
6. Need frustration	.08	.15*	.22**	-.04	-.11	-	.22***	.32***	.07	.03	2.12	0.76
7. Externalizing problems (AR)	.25**	.21*	.09	.02	-.24**	.45***	-	.28***	.20***	.06	1.56	0.59
8. Internalizing problems (AR)	.08	-.04	.08	-.16	-.02	.65***	.36**	-	.08	.21***	1.82	1.00
9. Externalizing problems (PR)	.24*	-.09	-.02	-.16	-.10	.20*	.48**	.14	-	.37***	1.20	0.41
10. Internalizing problems (PR)	.10	-.05	-.04	-.16*	-.11	.31**	.29*	.56***	.51*	-	1.57	0.84
M	2.51	2.31	2.53	3.59	3.47	-	-	-	-	-	-	-
SD	0.87	0.76	0.71	0.81	0.63	-	-	-	-	-	-	-

Note. PCP = parental psychological control; There are no descriptive statistics for the outcome variables at the between-person level as these were only measured at the daily level, but not in the baseline questionnaire

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

Table 2.

Estimated random intercept variances, residual error variances, and ICC's

	u_{0i}	e_{ti}	ICC
Perceived PCP	0.186	0.195	0.488
Oppositional Defiance	0.211	0.339	0.383
Compulsive Compliance	0.359	0.384	0.483
Negotiation	0.664	0.531	0.556
Accommodation	0.735	0.516	0.588
Need frustration	0.297	0.275	0.519
Externalizing problems (AR)	0.185	0.163	0.532
Internalizing problems (AR)	0.413	0.594	0.410
Externalizing problems (PR)	0.069	0.101	0.407
Internalizing problems (PR)	0.416	0.302	0.579

Note. PCP = parental psychological control; u_{0i} = variance situated at the between-person level; e_{ti} = variance situated at the measurement level

Table 3.

Indirect effects of perceived psychologically controlling parenting through need frustration on the outcome variables.

	Adolescent-reported outcomes	Parent-reported outcomes
Within-person level		
Psychological control → Need frustration → Externalizing problems	0.03 (0.01)***	0.01 (0.004)
Psychological control → Need frustration → Internalizing problems	0.09 (0.02)***	0.01 (0.01)
Between-person level		
Psychological control → Need frustration → Externalizing problems	0.03 (0.02)	0.01 (0.01)
Psychological control → Need frustration → Internalizing problems	0.08 (0.04)*	0.04 (0.02)

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

Table 4.

Indirect effects of perceived psychologically controlling parenting through need frustration on the outcome variables on the within-person level for varying levels of compulsive compliance and accommodation

	Compulsive compliance			Accommodation		
	Low	Moderate	High	Low	Moderate	High
Adolescent-reported outcomes						
Psychological control → Need frustration → Externalizing problems	0.027***	0.024***	0.021***	0.027***	0.022***	0.018**
Psychological control → Need frustration → Internalizing problems	0.094***	0.082***	0.071***	0.094***	0.078***	0.062***
Parent-reported outcomes						
Psychological control → Need frustration → Externalizing problems	0.006	0.005	0.004	0.006	0.005	0.004
Psychological control → Need frustration → Internalizing problems	0.009	0.008	0.007	0.010	0.008	0.007

Note. For clarity, we reported three digits after the decimal point

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

Figure 1.

Taxonomy of Coping with Autonomy Frustration (Skinner & Edge, 2002)

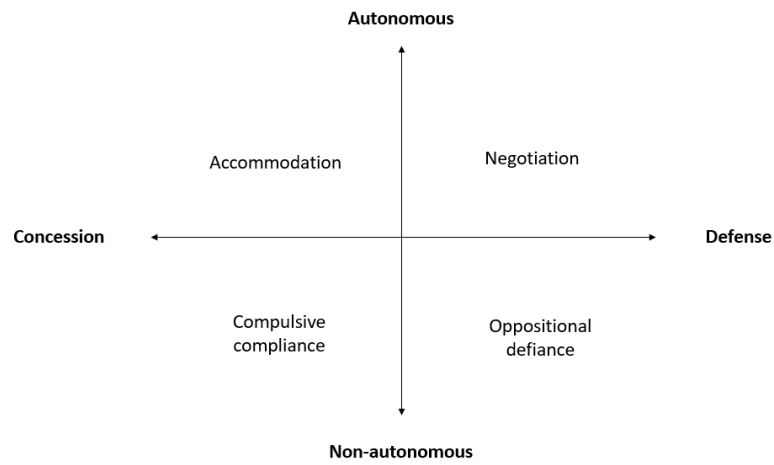


Figure 2.

Proposed multilevel moderated mediation model

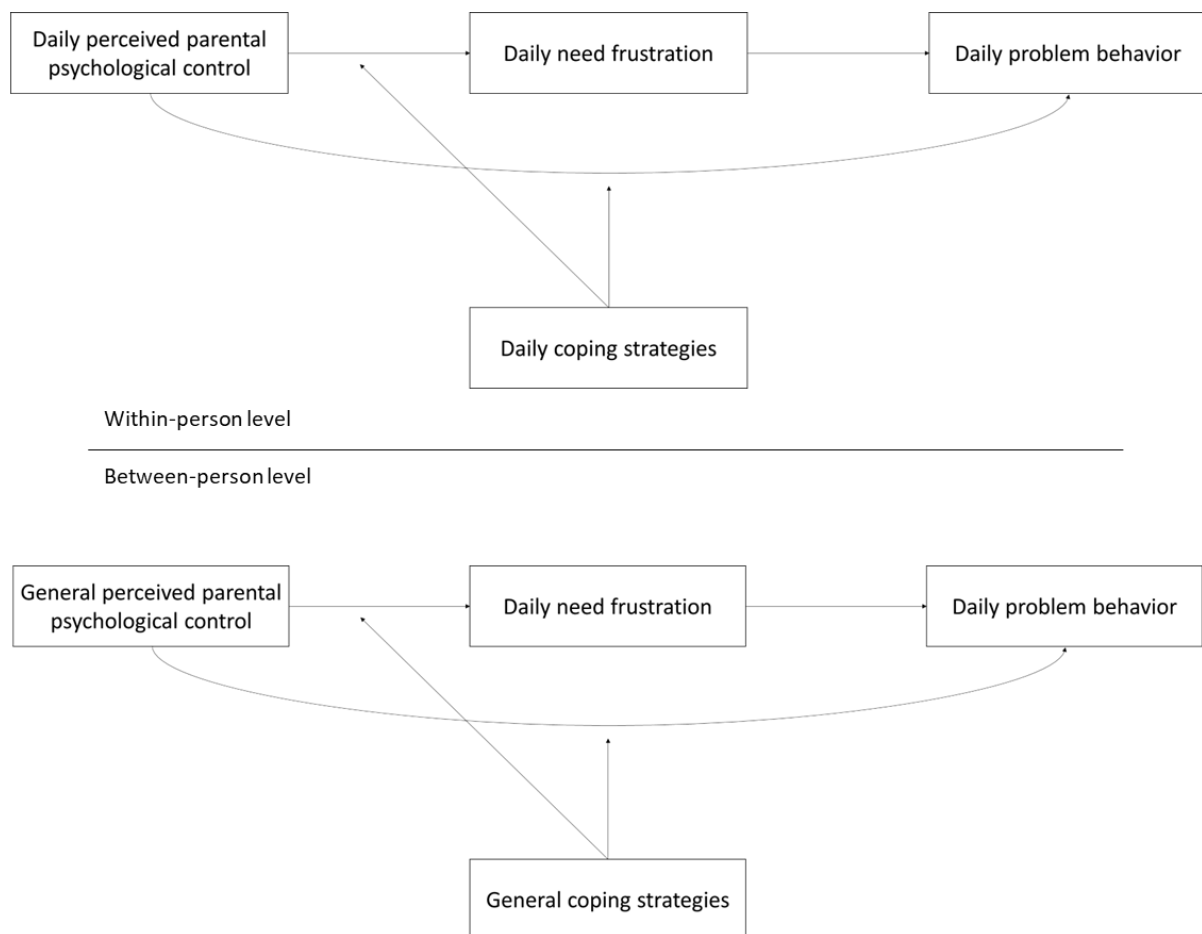
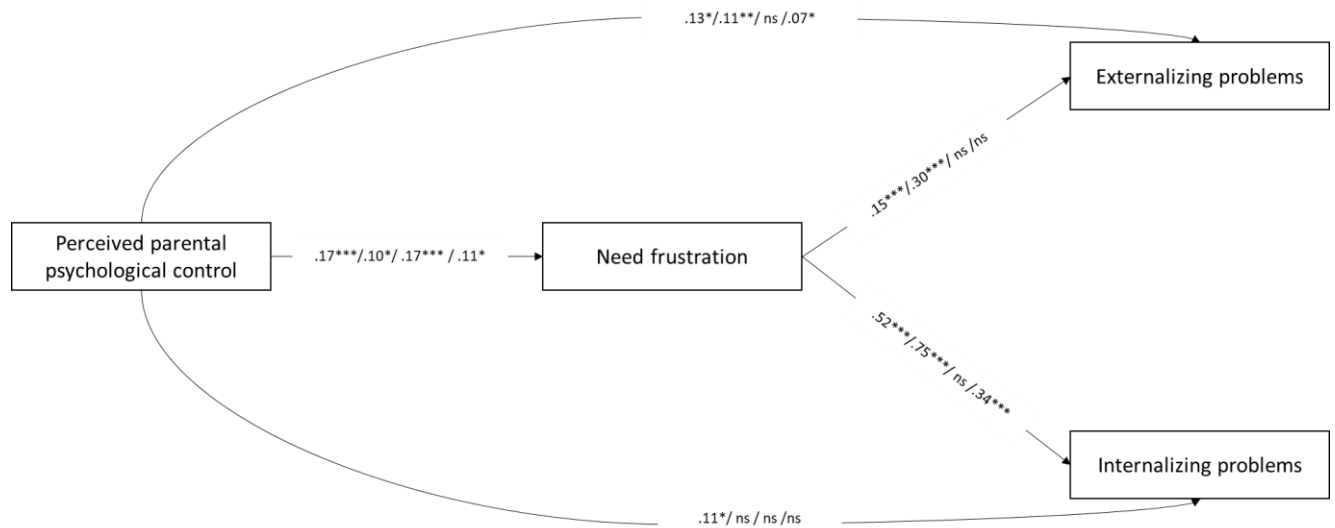


Figure 3.

Indirect associations between perceived parental psychological control and adolescents' problem behaviors through adolescents' need frustration



Note. First number represents the within-person level of the adolescent-reported model, second number represents the between-person level of the adolescent-reported model, third number represents the within-person level of the parent-reported model, fourth number represents the between-person level of the parent-reported model.

Figure 4A-4B.

Interaction between perceived controlling parenting and compulsive compliance and accommodation on need frustration at the within-person level.

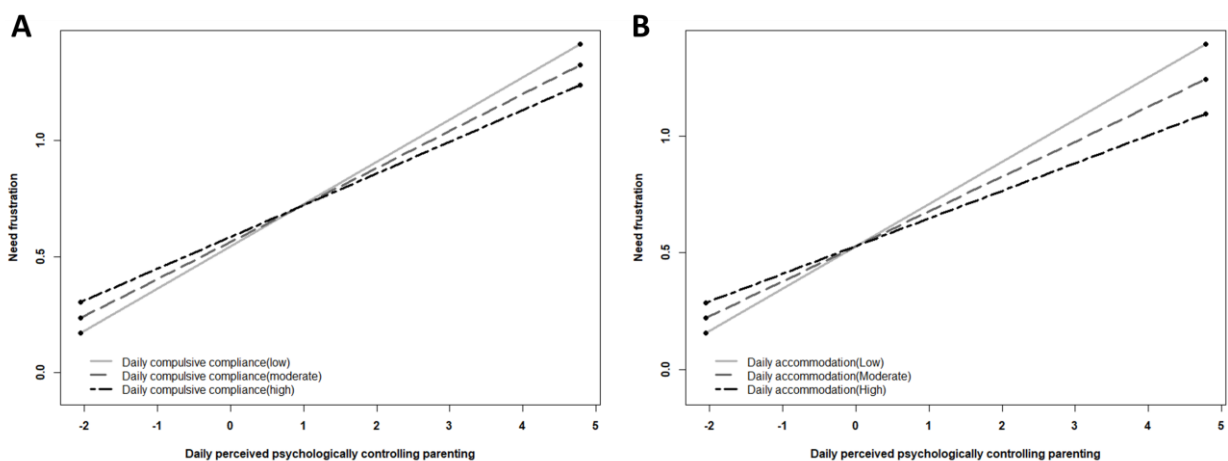


Figure 5.

Interaction between perceived controlling parenting and accommodation internalizing problems at the within-person level.

