Should Parents Combine Reasoning with Firm Control to Nurture Adolescent Socialization? Comparing Logical Consequences with Mild Punishments

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Author Statement

1. All authors declare no conflict of interest.
2. The *Fond de recherche du Québec – Société et culture* (FRQSC) and the Social Sciences and Humanities Research Council of Canada (SSHRC) funded and facilitated this research through a grant to the second author and a doctoral scholarship to the first author.
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Abstract

Parenting experts have recommended that parents combine reasoning with firm control strategies (i.e., constraints) when adolescents persistently break rules. By doing so, parents would foster two key socialization goals, namely compliance and internalization. However, recent studies hint that parental constraints could hinder the socialization benefits of parental reasoning, depending on whether they are used as logical consequences or as mild punishments. Our research tested this possibility across two studies. We recruited early to late adolescents and obtained perceived and coded measurements of their parents' interventions in rule-breaking situations (i.e., reasoning and constraints) as well as global, situational, and daily indicators of adolescent compliance (i.e., lack of defiance and rule-breaking behaviors) and internalization (i.e., autonomous compliance, controlled compliance, and acceptability beliefs). In Study 1 (N = 437) and Study 2 (N = 65), parental choice of constraint moderated the role of parental reasoning in adolescent autonomous compliance and compliant behaviors. When parents tended to use logical consequences, parental reasoning positively (or non-significantly) predicted adolescent autonomous compliance and compliant behaviors. In contrast, when parents tended to use mild punishments, reasoning was less strongly (or non-significantly) associated with autonomous compliance and predicted negatively (or non-significantly) compliance. Examining main effects on adolescent acceptability beliefs and controlled compliance revealed limited relations with reasoning. In contrast, constraints with stronger problem-constraint link tended to positively predict acceptability beliefs and negatively predict controlled compliance. These results extend past recommendations to combine parental reasoning with firm control strategies by showing the benefits of favoring logical consequences over mild punishments.

Keywords: Adolescence; Logical consequences; Mild punishments; Parenting; Reasoning

Public Significance Statement

In situations where adolescents persistently break rules, parenting experts have recommended that parents reason with their adolescents about the importance of the rule and use firm control strategies such as constraints. By combining these two strategies, parents would foster adolescents' socialization, a key determinant of adolescents' healthy adjustment. Our research nuances and extends these claims by showing that the positive socializing effects of parental reasoning and constraints are greater when parents use constraints under the form of logical consequences (i.e., constraints that address the problem created by the rule-breaking behavior) rather than constraints under the form of mild punishments (i.e., constraints that are unrelated to the rule-breaking behavior and thus merely rely on aversion).

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In parent-adolescent relationships, rule-breaking contexts represent a key opportunity for parents to participate in adolescents' socialization (Baumrind, 2012). Depending on parents' responses in these situations, adolescents will differ in their likelihood to internalize the importance of the rules they have broken and comply with them in the future. One intervention in particular, parental reasoning, has a longstanding reputation for being effective at promoting adolescents' socialization in rule-breaking situations. Parents use reasoning when they remind and discuss the importance of following the broken rules with their adolescents (e.g., by describing the impact of breaking rules on them or others; Hoffman, 1970). This strategy has been shown to promote internalization by helping adolescents understand and in turn integrate into their sense of self the values underlying the rules they are requested to follow (Grusec & Goodnow, 1994).

One limit associated with parental reasoning, however, is that it is sometimes ineffective in eliciting compliance (Larzelere et al., 1998; Robichaud et al., 2020b/c). In these persistent rule-breaking situations, parenting experts have proposed that parents combine reasoning with firm control strategies, also broadly referred to as constraints (Larzelere et al., 2013). Parental constraints are behavioral limitations that parents impose on their adolescents. These range from withdrawing privileges (e.g., taking away a cell phone) to imposing chores (e.g., laundry). In coherence with this proposition, studies conducted among early to late adolescents have shown that combining reasoning with constraints tends to enhance adolescent immediate compliance to a greater degree than reasoning alone (Robichaud et al., 2020b/c).

Although combining parental reasoning and constraints has been found to elicit adolescent compliance to a greater extent than reasoning alone, there are non-negligible potential backfire

effects associated with parental usage of constraints. Of particular importance for this study, constraints have been argued to hold the potential to interfere with the socialization benefits of reasoning (Faber & Mazlish, 2000; Hoffman, 1970). Indeed, not only have studies found negative relations between constraints and indicators of internalization and social adjustment (e.g., Gershoff et al., 2010; Robichaud et al., 2021), they have shown that combining parental constraints and reasoning could lead to poorer internalization, compared to reasoning alone (Robichaud et al., 2020b/c). Given the importance of both compliance and internalization in adolescents' successful socialization (Grusec et al., 2017), it is imperative to clarify whether and how parents may successfully use constraints. Our study aims to address this issue by examining whether and how parental constraints differentially affect the socialization benefits of reasoning, depending on their *problem-constraint link*. To do so, we turn to Self-Determination Theory (SDT), a theoretical framework that discusses parental discipline prerequisites for optimal socialization.

Parental Constraints Through the Lens of Self-Determination Theory

According to SDT, the effects of parental discipline on adolescent socialization is a function of the extent to which that discipline supports, rather than thwarts, adolescents' basic psychological need for autonomy (i.e., the need to feel volition over one's behaviors, thoughts, and feelings; Joussemet et al., 2008). More specifically, parental disciplinary interventions that are more autonomy-supportive (vs. autonomy-thwarting) tend to foster (vs. hamper) internalization and compliant behaviors, notably because these interventions tend to be perceived by adolescents as more acceptable (a prerequisite for internalization; Grusec & Goodnow, 1994) as well as offer the necessary information and psychological space to foster well-internalized (i.e., more autonomous and less controlled) reasons to comply (Grusec et al., 2017; Robichaud et al., 2021).

In rule-breaking settings, parents can support adolescent autonomy by engaging in

behaviors that (I) are considerate of adolescents' perspective, (II) encourage adolescents' active participation in solving problems created by their rule-breaking behaviors, and (III) are informational (Mageau & Joussemet, 2023). One constraint characteristic argued to be compatible with these three key AS ingredients is the presence of a logical link between the problem created by adolescent misbehaviors and the constraint selected to address this problem (i.e., the presence of a *problem-constraint link*; Robichaud et al., 2021). Constraints with strong problem-constraint links rely on those logical links to incite compliance, typically by constraining adolescents to address the problem created by their misbehavior (e.g., offering an apology after hurting someone) or to experience the consequences of having someone address it for them (e.g., losing a privilege used problematically). When constraints are applied in such a manner, they are called logical consequences (LC). When constraints lack a problem-constraint link (and thus rely merely on aversion to incite compliance), they are called mild punishments (MP; Dadds & Salmon, 2003).

How the Problem-Constraint Link May Moderate the Effectiveness of Reasoning

From an SDT perspective, constraints with stronger problem-constraint links should be more attuned to adolescent autonomy because these constraints tend to (I) offer experiential information on how to address transgression-induced problems, (II) give adolescent opportunities to participate actively in addressing problems created by their misbehaviors, and (III) be applied in a way that is considerate of adolescent perspective (Robichaud et al., 2021). By being more attuned to adolescent autonomy, LC should thus further enhance, or at least avoid hampering, the socialization effectiveness of reasoning.

In contrast, constraints relying on aversion rather than problem-constraint links may hamper adolescent autonomy as they (I) do not inherently hold informational value related to the problems associated with misbehaviors, (II) are more likely to put adolescents in a passive position

where they are merely required to "suffer" the consequence of having misbehaved, and thus (III) may lack consideration for adolescents' perspective (Robichaud et al., 2021). Further, one may argue that by focusing on aversion, MP could (IV) model interpersonal aggression and hence promote antisocial conduct (Grusec & Goodnow, 1994), (V) generate strong negative emotions that may divert adolescents' attention away from the rule's importance (Robichaud et al., 2020a), or even (VI) make adolescents feel like they have paid their dues by experiencing aversion and thus be relieved from any further need to process information regarding the rule-breaking situation (Ginott, 1965). Because of their potential undesirable effects on adolescent autonomy and processing of broken rules, MP may thus obstruct reasoning's socialization effectiveness.

Indirect evidence from recent experimental vignette studies supports the idea that adding constraints to reasoning may have different socialization effects depending on constraints' problem-constraint link (Mageau et al., 2018; Robichaud et al., 2020a/b/c). Compared to a reasoning-only condition, adding constraints was found to enhance adolescent intentions to comply in the future regardless of the problem-constraint link, but had differential effects on adolescent internalization (i.e., acceptability beliefs and autonomous vs. controlled reasons to comply) depending on the problem-constraint link. Specifically, adding a MP hampered adolescent acceptability beliefs regarding the parental intervention and adolescent autonomous reasons to comply, whereas adding a LC did not. No difference was observed on adolescent controlled reasons to comply, however, suggesting that all constraints prompt this negative indicator of internalization. One research also suggested that younger adolescents could be more sensitive to the benefits of logical consequences on autonomous compliance than older adolescents (Robichaud et al., 2020), though no other interaction effect with age has been found thus far.

Past Limitations and Present Study

Although these past studies paved the way to investigate the socializing role of the problem-constraint link, they possess limitations that are important to address to further our understanding of the interplaying effects of parental reasoning and constraints. First, these studies do not inform us on whether the effectiveness of reasoning to promote socialization actually changes as a function of constraints' problem-constraint link. Specifically, it remains unclear based on these studies whether the differences observed are due to the problem-constraint link (independently of the impact of reasoning) or to its interactive effect with reasoning. Second, the vignette design raises questions regarding the replicability of the results in a more natural setting.

Our present study thus aims to address these limitations by examining whether parental constraints differentially impact the socialization value of parental reasoning in naturally occurring rule-breaking contexts, depending on constraints' problem-constraint link. Our general hypothesis is that the socialization value of reasoning on adolescent internalization and compliance will be equal or stronger among parents who tend to use LC, whereas it will be weaker among those who tend to use MP. Based on past findings (Robichaud et al., 2020c), we also considered the possibility that such effects would be stronger for younger (vs. older) adolescents.

To test our hypotheses, we conducted two studies in which we asked early to late adolescents (i.e., aged between 11 and 20 years old; following guidelines by APA, 2023) to report on their parents' disciplinary interventions in rule-breaking contexts (i.e., parental reasoning and constraints) and on key socialization outcomes (i.e., compliance, acceptability beliefs, and reasons to comply). In Study 1 (referred to as the global study hereafter), adolescents rated parents' intervention tendencies in rule-breaking settings from a global perspective. In Study 2 (referred to as the situational study hereafter), adolescents described a specific rule that they sometimes break and then reported on their parents' intervention tendencies in this situation.

Method

Participants

In both studies, we recruited convenience samples of adolescents living with their parents. In the global study, we recruited a sample of 437 mid- to late adolescents in Montreal, Canada (M = 15.91 years, SD = 1.20 years; 52.60% girls). This sample was part of a broader project on parenting and were thus also included in Robichaud et al. (2021). Most adolescents were aged between 14 and 17 years (91.30%), with the rest aged between 18 and 20 years. Adolescents were born in Canada (70%), Maghreb countries (8.29%) or one of 35 other countries (≤ 2.30% of adolescents per country). Adolescents' parents were born in Canada (37.95%), Maghreb countries (16.80%), Haiti (6.30%) or one of more than 50 other countries (≤ 2.95% per country). Parents were well educated, with 54.15% having a university diploma, 22.05% having another post-secondary certification, 20.10% having a high school diploma as their highest certification, and only 3.75% who had not finished high school. When asked to identify the parent with whom they interact most often, 75.80% of adolescents identified their mother.

In the situational study, we recruited a smaller sample of 65 early to mid-adolescents in Gent, Belgium (M = 12.45 years, SD = 1.17 years; 53.85% girls). Most adolescents were aged between 12 and 14 years (70.77%); the remainder were 11 (27.69%) or 10 going on 11 years old (n = 1). Sociodemographic questions were more limited in this study and mostly targeted adolescents' parents. In this study, most parents were born in Belgium (with only 7.69% indicating being born elsewhere) and were very well educated (with 92.31% having a post-secondary diploma). When asked to identify the parent with whom they interact most often, adolescents once again mostly targeted their mother (86.15%).

Procedure

We obtained ethical approval prior to conducting our research. In both studies, we first met participants to describe our research, answer their questions, obtain their written consent, and notify their parents about their participation. We then met all participants a second time to hand out the questionnaires. In the global study, we obtained approval to collect data in two high schools and two colleges from the Montreal area. The first author then contacted all teachers from those establishments and arranged classroom visits with interested teachers (i.e., one to two teachers per establishment) to recruit participants and to supervise questionnaire completion. In the situational study, students participating in a research practicum were supervised by the fourth author to recruit adolescents in the community (using word of mouth) and to oversee questionnaire completion.

In both studies, we followed past procedures and assessed adolescent perceptions of rule-breaking situations they encountered with "the parent they interact most often with" (referred to as the target parent hereafter; Robichaud et al., 2021). Adolescents reported on (I) their target parents' tendency to respond to these situations with reasoning and constraints, (II) the harshness level of their target parents' interventions, and (III) the problem-constraint link of their target parents' constraints. Adolescents then reported on three indicators of internalization by rating their reactions to their target parents' interventions in terms of (IV) acceptability beliefs, and (V) reasons to comply (i.e., autonomous and controlled). Finally, adolescents reported on indicators of (VI) compliance (i.e., lack of defiant and rule-breaking behaviors).

In the global study, we asked adolescents to report on these rule-breaking situations while thinking about parents' general intervention tendencies during rule-breaking situations. In the situational study, we asked adolescents to describe a specific rule "set by [their target] parent, that [they] sometimes do not follow, and that [their target parent] monitors on a daily basis" and

to answer the aforementioned questions while thinking about the described rule.

Measures

Reasoning

To measure parental reasoning, we asked adolescents to report on the frequency with which their target parent discusses broken rules with them. In the global study, we asked adolescents to indicate how frequently their target parent "explains why the rule is important according to them [when they break a rule]", thereby capturing parents' general tendency to use reasoning (Hoffman, 1970). In the situational study, we developed two items based on past theorizing and studies operationalizing parental interventions likely to prompt adolescents' reasoning (Faber & Malzish, 2000; Robichaud et al., 2020). Specifically, we asked adolescents to rate the extent to which their parents "reminds [them] about the [described] rule" and "tells [them] why [they] should follow the [described] rule [when they break it]. The two items in the situational study were strongly correlated, $r = .65$, $p < .001$, and were thus combined to form a single score of situational reasoning.

Problem-Constraint Link

To distinguish LC from MP, we followed past procedures and measured the problem-constraint link of parental constraints (Robichaud et al., 2020c). In the global study, we asked adolescents to fill out the *Problem-Constraint Link Scale* (Robichaud et al., 2021). This 3-item scale measures the frequency with which adolescents perceive that their parental constraints (I) are logically related to, (II) specifically address, and (III) stem directly from the problem created by their rule-breaking behaviors ($\alpha = .77$). Higher scores imply that parents tend to use LC more frequently. This scale has predictive validity with mid- to late adolescents (Robichaud et al., 2021).

In the situational study, we asked adolescents to describe the "action" their target parent typically takes when they transgress the described rule. Asking adolescents to describe a parental

"action" (rather than "constraint") takes in consideration the fact that some parents may solely use verbal interventions as actions in rule-breaking settings (Baumrind, 2012). When the described parental action was a constraint, we coded it as a LC or a MP, based on the *Problem-Constraint Link Scale* (Robichaud et al., 2021). Thus, constraints identified as possessing a problem-constraint link (i.e., as being logically related to, specifically addressing, and/or stemming directly from the problem created by the transgressed rule) were coded as logical consequences, whereas those identified as lacking a problem-constraint link were coded as mild punishments. All other answers were coded as verbal interventions or as non-valid (and were thus excluded from this study).

To examine the reliability of our coding system, the first and last authors coded all participants' answers. Inter-rater reliability was satisfactory, with 87.69% agreement between coders and satisfactory kappa, $\kappa = .82$ (Landis & Koch, 1977). Further, all coding discrepancies were discussed and resolved. To examine the validity of our coding, we asked adolescents to fill out the *Problem-Constraint Link Scale* while thinking about the parental constraint they had described. Results suggested good validity, with adolescents perceiving their described parental constraint as having a stronger problem-constraint link when coded as a LC ($M = 5.16$, $SD = 1.03$) than when coded as a MP ($M = 3.90$, $SD = 1.58$), $t = 3.09$, $p = .004$, $d = 1.22$.

Descriptive statistics of our coding revealed that when adolescents transgress rules and their parents take action, (I) 44.62% use LC (e.g., rule: "Unload my bookbag"; parental action: "Send me upstairs to pick up and unload my bookbag"), (II) 20.00% use MP (e.g., rule: "That I shower and brush my teeth"; parental action: "They take my phone for punishment"), and (III) 27.69% solely use verbal interventions (e.g., rule: "To be polite"; parental action: "They would remind me that I broke the rule and ask me why I did it"). This left (IV) 7.69% of invalid answers in which (a) parents were described as not intervening (e.g., parental action: "Not much"; 4.61%),

or in which (b) the question was inadequately answered (e.g., unreadable sentence; 3.08%).

Compliance

In the global study, we measured adolescent compliance with the *Oppositional Defiant Scale* adapted to rule-breaking settings (Vansteenkiste et al., 2014). We asked adolescents to rate five statements regarding the frequency with which they tend to respond with defiant behaviors "when [their target] parent intervenes in [rule-breaking situations]". To create our compliance measure, we computed the mean reversed scores of the five items ($\alpha = .85$). This scale has shown predictive validity with early to late adolescents (Van Petegem et al., 2015).

In the situational study, we followed Dieleman et al. (2019)'s procedure and asked adolescents to fill out a 7-day diary questionnaire in which they indicated each day the extent to which they broke rules (3 items; e.g., "Today, I broke the rules") and behaved antisocially (4 items; e.g., "Today, I was mean to others"). These seven items were selected and adapted from the *Youth Self-Report* of the *Achenbach System of Empirically Based Assessment,* which has been validated with children and adolescents (Achenbach & Rescorla, 2001). To create our compliance measure, we computed the mean reversed scores of the seven items for each day (thereby yielding seven daily measures of compliance), and then computed the average score of the seven daily measures of compliance (thereby yielding one final score of compliance across seven days). The reliability of this scale was satisfactory across the seven days ($.78 \geq \alpha \geq .87$, $\alpha_{average} = .83$).

Acceptability Beliefs

In both studies, we obtained a first indicator of adolescent internalization by asking adolescents to indicate their acceptability beliefs regarding their target parent interventions during rule-breaking settings in general (global study) or during the described rule-breaking situation (situational study; Grusec & Goodnow, 1994). To do so, we followed past procedures (Robichaud

et al., 2021) and asked adolescents to indicate the extent to which the interventions were "acceptable", using a 7-point scale (1 = Not at all to 7 = Extremely). This question has shown predictive validity with adolescents (Robichaud et al., 2020b/c).

Reasons to Comply

In both studies, we obtained a second indicator of internalization by asking adolescents to report on the extent to which their reasons to comply with parental rules were well-internalized. To do so, we asked adolescents to complete the *Self-Regulation Questionnaire* adapted to rule-breaking settings (Soenens et al., 2009). In both studies, adolescents reported on their autonomous (internalized) reasons to comply, using the identified regulation subscale (e.g., "because I personally believe that it is important to follow the rule, even if it is not necessarily pleasant"; both $\alpha s \geq .87$), and on their controlled (non-internalized) reasons to comply, using the external regulation subscale (e.g., "because I am afraid to lose the privileges that my parent gives me"; both $\alpha s \geq .68$). In the global study, adolescents reported on their general reasons to comply with rules. In the situational study, adolescents reported on their reasons to comply with the described rule. These subscales have shown predictive validity with adolescents (Soenens et al., 2009).

Covariates

In the global study, we controlled for potential key confounding effects. Following past procedures, we asked adolescents to report on the harshness of their target parents' interventions and on the frequency of their target parents' constraints (Robichaud et al., 2021). To measure harshness, we asked adolescents to indicate the extent to which they considered that their parents' global interventions were "harsh", "severe" and "unpleasant" ($\alpha = .81$). To measure constraints' frequency, we asked adolescents how frequently their target parent "takes action so that [they] don't reproduce these [misbehaviors] (e.g.., by giving [them] a consequence)." These measures

have shown predictive validity with mid- to late adolescents (Robichaud et al., 2021).

In the situational study, we did not include covariates in our analyses given our sample size. We thus traded off weaker statistical control for greater correlation stability.

Plan of Analyses

Preliminary Analyses

In both studies, we began our preliminary analyses by examining the percentage and pattern of missing data. We then examined variable distributions to ensure that our continuous variables were normally distributed (i.e., skewness < |2|, kurtosis < |7|) and that sufficient variation occurred for our dichotomic variables (i.e., frequency ratio inferior to 90:10). Finally, we examined the correlations between all our variables of interest and, for descriptive purposes, our sociodemographic variables (i.e., adolescent age, adolescent gender, and parent gender).

Main Analyses

In both studies, we conducted our main analyses on Mplus 8.8, using structural equation modeling (SEM) with the maximum likelihood (ML) estimator (or its MLR robust variant provided non-normal data distribution) and the Full Information Maximum Likelihood (FIML) method to handle missing data. We used FIML because it yields unbiased estimates for data that are missing both at random and completely at random, as well as less biased estimates for data that are not missing at random compared to traditional missing data techniques (e.g., pairwise deletion, single imputation; Baraldi & Enders, 2010). In both studies, we assessed the moderating role of parental constraints' problem-constraint link in the relation between parental reasoning and our indicators of adolescent compliance and internalization (see Figure 1for an illustration of our main model for both studies). In the global study, we examined whether adolescent perceptions of their target parents' global tendency to use reasoning interacted with adolescent perception of their

parents' global tendency to use constraints with strong problem-constraint link to predict adolescent (I) global compliance, (II) global acceptability beliefs, and (III) global autonomous and controlled reasons to comply with rules in rule-breaking situations, while controlling for the aforementioned covariates. In the situational study, we examined whether adolescent perceptions of their target parents' tendency to use reasoning when they break the described rule interacted with our coding of the parental constraint's problem-constraint link to predict adolescent (I) daily compliant behaviors over a 7-day period, (II) acceptability beliefs regarding the parental intervention, and (III) reasons to comply (i.e., autonomous and controlled).

Provided significant interactions, we intended to examine simple effects by modeling the relation between parental reasoning and relevant adolescent socialization outcomes at strong and weak levels of parental constraints' problem-constraint link. In the global study, strong and weak problem-constraint links corresponded to problem-constraint link scores at one standard deviation above and below the mean, respectively. In the situational study, strong and weak problem-constraint links corresponded to constraints coded as LC and MP, respectively. Provided non-significant interactions, we intended to examine main effects of parental reasoning and of parental constraints' problem-constraint link on the given adolescent socialization outcomes. For exploratory purposes, we also examined complementary simple effects of the problem-constraint link on socialization outcomes at low and high levels of reasoning, and tested triple interactions between parental reasoning, parental constraints' problem-constraint link, and adolescent age to verify whether our observed effects varied according to adolescent age.

Results

Preliminary Analyses

Missing Data and Normality

Table 1 and 2 present descriptive statistics of our variables of interest for both studies. In the global study, 5.72% or less of the data were missing per variable (M = 3.47%, SD = 1.17%). Little's MCAR suggested that data were not missing completely at random, $\chi2(76) = 121.47$, $p < .001$. Additional analyses revealed that adolescents who were missing data on at least one variable (compared to those who had no missing data) were more likely to be boys than girls, $p = .010$, rated their parents' interventions as less severe, $p = .026$, and reported marginally lower controlled reasons to comply, $p = .053$, all other ps $\geq .096$. In the situational study, there was no missing data. In both datasets, all variables were normally distributed, (skewness $\leq |1.23|$, kurtoses $\leq |1.05|$). This confirmed our choice to use FIML to handle missing data in the global study and the ML estimator in both studies.

Correlations between Variables

Table 1 and 2 also present the correlations between all variables. In the global study, parents' global tendency to use reasoning was associated with all global indicators of adolescent internalization in the expected direction, though the size of these associations was modest. Thus, adolescents who perceived their target parent as using reasoning more often also perceived their parents' interventions as more acceptable and reported complying with rules for more autonomous reasons and for less controlled ones. Parents' global tendency to use reasoning was not associated with our indicator of adolescent compliance, however. In the situational study, parents' tendency to use reasoning in response to a specific transgression was not significantly associated with any situational indicator of adolescent internalization or compliance.

Main Analyses

Table 3 presents the results of the main analyses for both studies. In the global study, we observed a significant interaction between parental reasoning and parental constraints' problem-

constraint link on adolescent autonomous compliance and compliant behaviors, both *p*s ≤ .031, but not on adolescent controlled compliance and acceptability beliefs, both *p*s ≥ .710. Examining simple effects for adolescent autonomous compliance and compliant behaviors revealed that when adolescent perceived that their target parents' constraints were frequently characterized by a strong problem-constraint link (i.e., were more frequently LC), parental reasoning positively predicted adolescent autonomous compliance, $p < .001$, but did not significantly predict adolescent compliant behaviors, $p = .220$. In contrast, when adolescent perceived that their parents' constraints were infrequently characterized by a strong problem-constraint link (i.e., were more frequently MP), parental reasoning did not significantly predict adolescent autonomous compliance, $p = .152$, and predicted less adolescent compliant behaviors, $p = .008$. Examining main effects for adolescent controlled compliance and acceptability beliefs revealed that parental reasoning did not significantly predict adolescent controlled compliance, $p = .159$, but positively predicted adolescent acceptability beliefs, $p = .004$, whereas the problem-constraint link negatively predicted adolescent controlled compliance, $p = .040$, and positively predicted adolescent acceptability beliefs, $p < .001$.

Results from the situational study generally mirrored those from the global study, revealing significant interactions between parental reasoning and parental constraints' problem constraint-link on adolescent autonomous compliance and on adolescent daily compliant behaviors, both *p*s ≤ .033, and non-significant ones on adolescent controlled compliance and on adolescent acceptability beliefs, both *p*s ≥ .110. Examining simple effects showed that when parents were coded as using LC, parental reasoning once again positively predicted adolescent autonomous compliance and this time positively predicted adolescent daily compliant behaviors, both *p*s ≤ .026. In contrast, when parents were coded as using MP, parental reasoning once again did not

significantly predict adolescent autonomous compliance and this time did not significantly predict adolescent daily compliant behaviors, both *p*s ≥ .179. Examining main effects for adolescent controlled compliance and acceptability beliefs revealed that parental reasoning was not significantly associated with adolescent acceptability beliefs nor with adolescent controlled compliance, both *p*s ≥ .160, whereas LC predicted marginally less adolescent controlled compliance than MP, $p = .067$, and greater adolescent acceptability beliefs than MP, $p = .045$.

Secondary Analyses

Exploring the complementary simple effects of parental constraints' problem-constraint link on adolescent autonomous reasons to comply and compliance at low and high levels of parental reasoning (i.e., with reasoning now considered as the moderator of the link between parental constraints' problem constraint and adolescent outcomes) revealed a similar pattern of results across studies. In the global study, when parents were rated as using reasoning more frequently, parental constraints' problem-constraint link positively predicted adolescent autonomous compliance, ß = .43, $p < .001$, and compliant behaviors, ß = -.28, $p < .001$. In contrast, when parents were rated as using reasoning less frequently, parental constraints' problem-constraint link predicted adolescent autonomous compliance more weakly, ß = .29, $p < .001$, and was not significantly related to adolescent compliance, $p = .728$.

In the situational study, when parents were rated as using parental reasoning more frequently, parental constraints coded as LC predicted marginally more adolescent autonomous compliance than those coded as MP, ß = .37, $p = .052$, and positively predicted adolescent daily compliance, ß = .41, $p = .019$. In contrast, when parents used reasoning less frequently, adolescents reported similar levels of autonomous compliance and daily compliant behaviors regardless of parental constraints, both *p*s ≥ .273.

Finally, examining triple interaction effects between parental reasoning, parental constraints' problem-constraint link, and adolescent age revealed no significant effect on all outcomes in the global study, all *p*s ≥ .725, thus suggesting that our observed pattern of results did not vary across age. In the situational study, we could not examine triple interactions because of model convergence issues, which were likely due to our smaller sample size.

Discussion

The main goal of our study was to examine whether and how parental choice of constraint affect the socialization value of parental reasoning in rule-breaking settings. Based on past studies showing the advantages of LC over MP (i.e., Mageau et al., 2018; Robichaud et al., 2020a/b/c, 2021) and on theoretical writings suggesting that these two types of parental constraint could differently affect adolescents' appraisal of reasoning (Ginott, 1965), we tested the hypothesis that the documented positive effects of parental reasoning on adolescent internalization and compliance would be more salient when combined with LC than when combined with MP.

Reasoning, the Problem-Constraint Link, and Internalization

Overall, our results offered some support to the idea that parents' choice of constraint alters the effectiveness of their reasoning on adolescent socialization. Regarding internalization, the relation between parental reasoning and adolescent autonomous compliance was positive across studies for adolescents whose parents tend to use LC, but was weaker (global study) or non-significant (situational study) for adolescents whose parents who tend to use MP. This pattern of results may be interpreted in different ways. From an SDT perspective, it is possible to argue that LC's focus on problem-solving may make this strategy more attuned to adolescent need for autonomy, thereby preserving the necessary psychological space and emotional climate to process and internalize the message communicated via parents' reasoning. In contrast, MP's focus on

aversion may make this type of constraint more likely to thwart adolescents' needs for autonomy, thereby creating suboptimal conditions for internalization to occur and hampering reasoning's positive impact on autonomous compliance. This interpretation is in line with past findings showing that LC tend to be more aligned with other parental behaviors supporting adolescents' need for autonomy than MP (Robichaud et al., 2021). Another interpretation, which was briefly discussed in the introduction, may be that constraints relying on aversion instead of on the problem-constraint link do not hold sufficient informational value to help adolescents understand and in turn internalize the relevance of following the broken rules. Further, it is possible that by relying on aversion to prompt compliance, mild punishments lead adolescents to feel that they have paid their dues for their misbehavior, thereby preventing them from processing and thus internalizing the information conveyed by reasoning (Faber & Mazlish, 2000; Ginnot, 1965). Future research could shed light on the validity of these interpretations by examining the relations between these potential mechanisms, parental interventions, and adolescent socialization.

While parental constraints' problem-constraint link moderated the relation between parental reasoning and adolescent autonomous compliance, it did not moderate the relation with adolescent controlled compliance. Further, examining main effects revealed that parental reasoning was not significantly related to adolescent controlled compliance. The lack of relation between reasoning and controlled compliance may be interpreted in light of recent SDT models suggesting the presence of dark and bright pathways toward internalization. According to these models, need-supportive strategies (e.g., reasoning) are particularly likely to play a role in fostering positive internalization outcomes (e.g., autonomous compliance), whereas need-thwarting strategies (e.g., constraints) are particularly likely to play a role in eliciting negative internalization outcomes (e.g., controlled compliance; Ryan & Vansteenkiste, 2013). Thus, one may assume that

parental reasoning should play a lesser role than parental constraints in controlled compliance. This assumption is consistent with the observed main effects of parental usage of constraints and of the problem-constraint link on controlled reasons to comply in our main analyses.

Regarding adolescent acceptability beliefs, we also did not find any significant interaction effect between parental reasoning and choice of constraint, though we did find one (weak) positive relation between parental reasoning and acceptability beliefs in the global study. In contrast, parents' tendency to prefer LC over MP was positively linked to acceptability beliefs across studies. Adolescents' evaluation of their parents' interventions thus seemed to have depended more strongly on parents' choice of constraints, suggesting that this aspect of parental intervention may be most salient.

Reasoning, the Problem-Constraint Link, and Compliance

In addition to finding that parental reasoning better predicted adolescent autonomous compliance when paired with LC (vs. MP), we observed a similar pattern of results for our indicators of adolescent compliance. Across studies and regardless of adolescent age, we found that parental reasoning was never negatively associated with our indicators of adolescent compliance among parents who tend to use LC – it was either positively (situational study) or non-significantly (global study) related to compliance. In contrast, parental reasoning was never positively associated with our indicators of adolescent compliance among parents who tend to use MP – it was either negatively (global study) or non-significantly (situational study) related to it.

Various explanations may be offered for the divergent patterns of results between the situational and the global studies. A first explanation may be related to the covariates used in the global study (and lack thereof in the situational study). Specifically, by controlling for the frequency of parental constraints and the harshness of parental interventions in the global study,

we may have accounted for part of the effects that the problem-constraint link could have on adolescent appraisal of reasoning. This in turn could explain why relations between the problem-constraint link and outcomes seemed stronger in the situational study than in the global study.

Alternatively, one may argue that our divergent results could be attributable to sociodemographic differences between our samples. In the global study, participants were Canadian mid- to late adolescents from diversified ethnic and socioeconomic backgrounds. In the situational study, participants were early to mid-adolescents mostly born in Belgium and with a rather high socioeconomic status. We found limited evidence suggesting that age played a role in the results *within* each study. However, it remains possible that age played a role in the differences *between* our studies. Indeed, though we did not find any interaction effect of age among mid- to late adolescents in our global study nor among early to mid-adolescents in our situational study, it is possible that age would moderate the observed effects when assessing early to late adolescents. Other sociodemographic differences that could explain our divergent results may also have been overlooked (e.g., cultural differences in adolescents' appraisal of the same parental interventions).

Complementary Simple Effects: The Value of Pairing Constraints with Reasoning

Although a secondary aim, examining the complementary simple effects of the problem-constraint link on autonomous compliance and our indicators of compliance at high and low level of parental reasoning proved highly informative. Overall, these results suggest that the beneficial role of constraints with a stronger problem-constraint link is a function of the extent to which parents pair such constraints with reasoning. Indeed, among parents who tended to use reasoning more frequently, LC showed an advantage over MP on both outcomes across studies. In contrast, among parents who tended to use reasoning less frequently, LC did not differ from MP on any outcomes across studies, except for one weaker positive correlation between the problem-

constraint link and autonomous compliance at the global level. Thus, expanding on writing suggesting that firm control's effectiveness is increased when paired with reasoning (e.g., Larzelere et al., 2013), our results suggests that the advantages of some constraints over others may be more (or only) salient when parents have provided complementary reasoning.

Theoretical and Practical Implications

This research holds noteworthy theoretical and practical implications. From a theoretical standpoint, our study extends and nuances past work suggesting that combining reasoning with firm control strategies in rule-breaking settings lead to more positive socialization outcomes than either one alone (Larzelere et al., 2013). Indeed, our two studies show that parents who tend to combine reasoning with constraints under the form of LC are more likely to foster adolescent compliance and internalization, compared to those who combine reasoning with constraints under the form of MP. Our study also offers additional support to Self-Determination Theory's claim that parental interventions that are more attuned to adolescent autonomy (e.g., because they hold greater informational value) should facilitate their socialization process (Joussemet et al., 2008).

From a practical standpoint, this research further stresses the importance of recommending to parents that they favor LC over MP. Indeed, not only are MP predictive of poorer socialization outcomes in adolescents compared to LC (Robichaud et al., 2020c), they seem to have spillover detrimental effect on the socialization benefits of parental reasoning, both at a situational and a global level. Further, our exploratory analyses (revealing no interaction effect with age) hint at the possibility that such effects may generalize to adolescents of all ages. Thus, given the key role of parental reasoning in promoting adolescent internalization and in preventing adolescent rule-breaking behaviors in rule-breaking settings (Grusec et al., 2017), it is relevant to raise awareness regarding the moderating effect of parental choice of constraints on the socialization effectiveness

of parental reasoning, and how to appropriately create strong problem-constraint links (for a discussion on the topic, see Robichaud et al., 2021). Teaching parents how to appropriately use LC should ultimately foster adolescents' socialization and development.

Strengths, Limitations, and Future Research

Our research has methodological strengths that raise confidence in its replicability and in the validity of its theoretical and practical implications. Confidence in replicability and validity is notably enhanced by the fact that we found similar patterns of results across (I) two studies in (II) real-life settings that used (III) two complementary levels of generality (situational and global), (IV) two complementary measures of the problem-constraint link (perceived and coded), and (V) two different samples from (VI) two different age range and (VII) two different nationalities. Indeed, in both studies, the effects of parental reasoning on our outcomes of interest were similarly affected (or unaffected) by the problem-constraint link, thereby hinting at the likely replicability of our results and their importance both during specific rule-breaking situations and in general.

Our research also contains limitations that should be considered. First, recruitment issues for our situational study resulted in a smaller sample size than what was originally planned. This may have hampered the stability of our correlations (as can be observed by the larger standard errors) and limited statistical power to detect weaker effects (as can be observed by fewer statistically significant effects in this sample). To limit the instability of our correlations, we excluded covariates from our main analyses. However, this led to another limitation, namely the impossibility to discard potential confounded effects in our results.

Second, although recruiting younger participants in the situational study enabled us to explore whether the interplaying socializing role of parental reasoning and the problem-constraint link of parental constraints could generalize to early adolescence, it also raised concerns regarding

participants' cognitive maturity to answer our questionnaires. Most of our questionnaires had been successfully used with children of 8 years and older, but some had not been validated or tested before, including our measurements of reasoning.

Third, parents did not participate in our research, thereby excluding an important source of information from our study. Past work suggests that adolescent appraisal of parenting practices tends to be the most direct predictor of adolescent outcomes (Soenens et al., 2015), yet having multiple sources of informants nonetheless provides a robust test of research questions and can offer insights in how parent-adolescent dynamics affect adolescents. Somewhat relatedly, asking adolescents to target the parent with whom they interact most often, rather than the one who is most involved in disciplinary practices, may have led to a lesser percentage of parental interventions that were coded as constraints (vs. verbal interventions).

One last noteworthy limitation is our usage of cross-sectional designs, which offered little information on the long-term socialization value of parental usage of reasoning and constraints. Future longitudinal research could address this issue by examining whether parents' tendency to use LC (vs. MP) at baseline alters the predictive value of reasoning's effectiveness on socialization outcomes later in time, while adjusting for baseline levels of these outcomes. Such research could also examine other constraint characteristics proposed to play a role in the socializing effectiveness of constraints. For instance, parenting experts have proposed that constraints are more effective if they are immediate, consistent, proportional, and realistic (Lerman & Vorndran, 2002). Examining such constraint characteristics in concomitance with the problem-constraint link could help disentangle the socialization value of each characteristic. Based on past experimental research isolating the problem-constraint link from all other constraint characteristics, one could expect that constraints' problem-constraint link would play a significant socializing role even when

controlling for these other characteristics (Robichaud et al., 2020c). Future research could also examine if the benefits of LC over MP may be attributable to additional constraint characteristics than the problem-constraint link. For instance, the fact that LC are logical may inherently make them more immediate, consistent, proportional, and realistic. As such, one may argue that these characteristics could mediate the advantages of LC over MP on adolescent outcomes.

Finally, future research could assess other moderators of the link between parental interventions and adolescents' socialization. Based on past research, one might notably anticipate that the effects of parental constraints and reasoning would be weaker amongst adolescents who are less sensitive to punishments (e.g., due to temperamental traits; Dadds & Salmon, 2003) or who have a shorter attention span (e.g., due to a diagnostic of ADHD; Li, 2018).

Conclusion

Parenting experts have recommended that parents combine reasoning with constraints to optimally foster adolescent socialization. Our present research extends this proposition by showing that the socializing role of parental reasoning may vary as a function of the problem-constraint link of parental constraints. Thus, not only do logical consequences tend to predict better socialization outcomes than mild punishments (as was found in past studies), our study shows that logical consequences also seem to better preserve the well-documented socialization benefits of parental reasoning on adolescents. As such, our study further stresses the importance of recommending to parents that they replace mild punishments by logical consequences.

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Table 1

Means, Standard Deviations and Correlations Among Variables Used in the Global Study.

	Mean	*SD*	1	2	3	4	5	6	7	8	9	10	11
1. P. problem -constraint link (perceived)	4.04	1.47											
2. P. Reasoning	4.65	2.06	.31*										
3. A. Compliance	5.81	1.15	.18*	.04									
4. A. Autonomous compliance	4.23	1.66	.42*	.29*	.40*								
5. A. Controlled compliance	3.96	1.68	-.05	-.13*	-.27*	-.40*							
6. A. Acceptability beliefs	4.37	1.56	.34*	.22*	.30*	.57*	-.37*						
7. P. Intervention harshness	4.16	1.50	.04	-.02	-.37*	-.39*	.53*	-.47*					
8. P. Constraint frequency	3.97	2.06	.15*	-.05	-.06	-.11†	.46*	-.22*	.44*				
9. A. Age	15.91	1.21	.03	.08	-.06	-.04	-.11†	.03	-.07	-.17*			
10. A. Sex 0 = Girls; 1 = Boys	0.47	0.50	.06	.11†	-.01	.08	-.01	.10†	-.02	.02	-.06		
11. P. Gender 0 = Father; 1 = Mother	0.76	0.43	-.08	-.01	-.05	-.08	.00	-.06	.02	.01	.02	-.09	

Note. *$p < .05$; † $p < .10$. P. = Parent. A. = Adolescent

Table 2

Means, Standard Deviations and Correlations Among Variables Used in the Situational Study.

	Mean	*SD*	1	2	3	4	5	6	7	8	9
1. P. problem- constraint link (coded)	0.69	0.47									
2. P. problem- constraint link (perceived)	4.96	1.38	.44*								
3. P. Reasoning	5.65	1.43	-.03	.04							
4. A. Daily compliance	6.48	0.56	.13	.34*	.14						
5. A. Autonomous compliance	5.09	1.50	.09	.54*	.12	.61*					
6. A. Controlled compliance	3.23	1.40	-.27†	-.29*	.18	-.24†	-.29*				
7. A. Acceptability beliefs	4.98	1.79	.27†	.52*	-.07	.29*	.53*	-.34*			
8. A. age	12.45	1.17	.04	-.26*	-.22†	-.25*	-.25*	-.06	-.04		
9. A. sex 0 = Girls; 1 = Boys	1.46	0.50	-.19	-.04	.01	.03	-.05	.07	.06	.10	
10. P. gender 0 = Father; 1 = Mother	1.86	0.35	.02	-.17	-.05	-.15	-.13	-.05	-.05	.00	-.08

Note. *$p < .05$; † $p < .10$. P. = Parent. A. = Adolescent.

Table 3

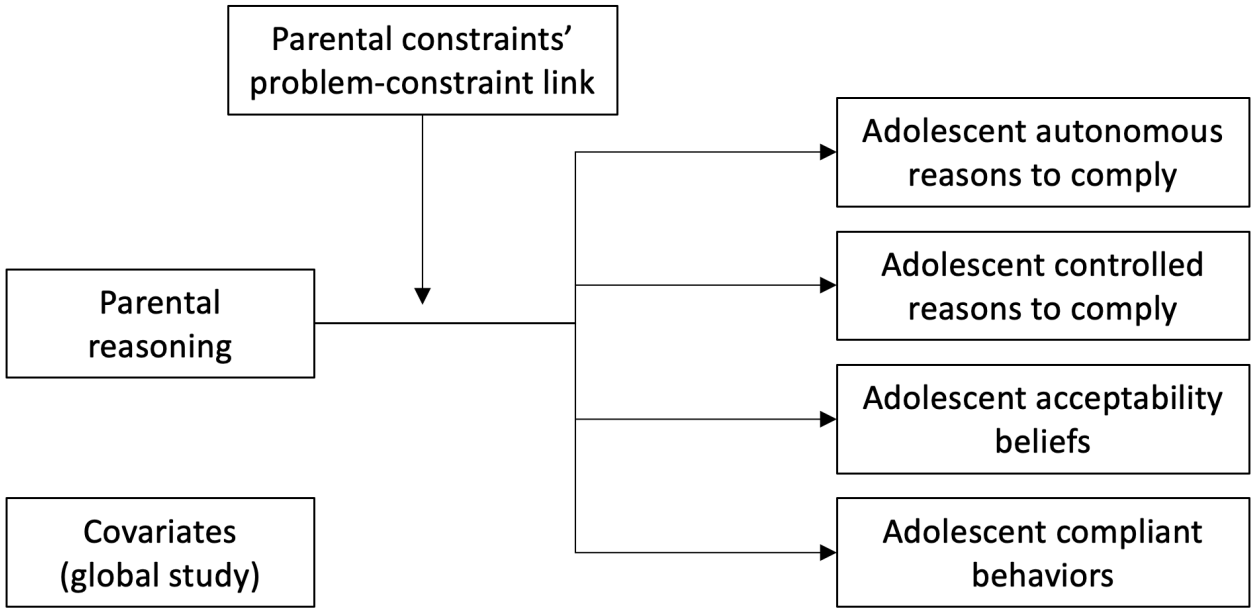
Standardized Beta Coefficients (Standard Errors) for the Main Analyses in the Global Study and in the Situational Study

Global level	A. Compliance	A. Acceptability beliefs	A. Autonomous compliance	A. Controlled compliance
P. Reasoning	LC: .10 (.07) MP: -.13 (.06)*	.13 (.04)*	LC: .27 (.06)* MP: .11 (.05)*	-.06 (.04)
P. Problem-constraint link (perceived)		.32 (.04)*		-.09 (.04)*
Problem-constraint link x Reasoning	.15 (.06)*	.02 (.05)	.11 (.05)*	.01 (.05)
P. Intervention harshness	-.43 (.05)*	-.43 (.04)*	-.40 (.04)*	.40 (.04)*
P. Frequency of constraints	.10 (.05)*	-.06 (.05)	.03 (.05)	.28 (.04)*
Situational level	**A. Daily compliance**	**A. Acceptability beliefs**	**A. Autonomous compliance**	**A. Controlled compliance**
P. Reasoning	LC: .37 (.15)* MP: -.29 (.23)	-.05 (.12)	LC: .35 (.15)* MP: -.32 (.24)	.17 (.12)
P. Problem-constraint link (coded) 0 = MP; 1 = LC		.29 (.14)*		-.27 (.15)†
Problem-constraint link x Reasoning	-.38 (.16)*	-.26 (.18)	-.39 (.18)*	.28 (.18)

Note. *$p < .05$; † $p < .10$; P. = Parent; A. = Adolescent; LC = Logical consequences; MP = Mild punishment

Figure 1

Main Structural Equation Model for Study 1 and 2



Note. Covariates are related to all variables, but their links are not depicted for parsimony purposes.