

Adolescents' Interpretations of Parental Control: Differentiated by Domain and Types of Control

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To determine whether adolescents interpret parental behavioral and psychological control differently, type, level, and domain of control were manipulated across 3 interpretations (adolescents' competence, mattering to parents, and parental intrusiveness). As expected, adolescents ($N = 67$, $M = 14.25$ years) generally interpreted high levels of behavioral control more negatively than moderate behavioral control. At high levels, however, adolescents did not differentiate behavioral control and psychological control, interpreting both as indicating less mattering and more intrusiveness. Furthermore, high levels of control over personal domain issues, regardless of type, tended to be interpreted most negatively. In conclusion, adolescents construe control in ways that may have import for their adjustment and this should be accounted for in theoretical models of parental control.

Much of the research on parenting has focused on the issue of control, which is theorized to help adolescents learn how to regulate their impulses and desires so that their behaviors meet societal rules and expectations (Barber, Olsen, & Shagle, 1994; Maccoby & Martin, 1983). This work, by and large, focuses on what parents do to control their adolescents and how control affects adolescents' adjustment. Less emphasis has been placed on how adolescents view and react to parental control. This is surprising given theoretical and empirical accounts cautioning against unidirectional, parent-driven models (e.g., Bell, 1979; Harris, 1995; Kuczynski, 2003). The aim of this study is to provide an account of parental control from the perspective of adolescents. To do so, we use the conceptual distinctions made by Barber and colleagues as a framework (Barber, 1996; Barber et al., 1994). Our rationale for doing so is that Barber's conceptualization of parental control is not only one of the most recent attempts to synthesize

the parenting literature but also one of the most frequently cited (at least 300 times).

Behavioral Versus Psychological Control

Is all parental control the same? According to Barber and colleagues (Barber, 1996; Barber et al., 1994), the answer is no. Based on earlier writings by Schaefer (1965), they distinguish between *behavioral control* and *psychological control*, with the justification that children need (a) sufficient regulation of their behavior to learn the rules and structure of social functioning and (b) enough psychological autonomy to develop into competent individuals with a clear sense of self (Barber et al., 1994). According to Barber (1996), parents' locus or focus of control is part of what sets the two types of control apart. Specifically, behavioral control focuses on managing adolescents' behaviors by creating a regulating structure through such actions as supervision, setting limits, and establishing and enforcing household rules. In contrast, psychological control refers to parental attempts to control behavior by manipulating adolescents' emotions, feelings, thoughts, or ideas, or through the parent-child relationship, applying such techniques as guilt induction, love withdrawal, and excessive shaming (Barber, 1996; Barber & Harmon, 2002). Barber et al. (1994) were rather clear that the two

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types of parental control were distinctly different constructs: "Psychological control and behavioral control, as we define them, are linear constructs ranging from zero-points to increasingly higher levels of psychological and behavioral control. The constructs are conceptually orthogonal in that the level of one is not necessarily a function of the level of the other" (p. 1122). According to Barber, the absence of behavioral control increases externalizing problems because adolescents are inadequately regulated, whereas the presence of psychological control leads to internalizing problems because adolescents' psychological and emotional well-being are compromised. In summary, Barber suggests the two forms of parental control are distinct in three ways. They differ in the parenting behaviors they encompass, in the locus or goal of control, and in their effects on adolescents' adjustment. We argue, however, that limitations in measurement and conceptual clarity call these conceptual distinctions into question.

Measurement Issues

Previous efforts to operationalize behavioral and psychological control are limited by several measurement issues. First, in much of the literature, behavioral control is operationalized as parental monitoring. Unfortunately, the measures used in virtually all of the studies of parental monitoring have actually been measures of parental knowledge of adolescents' whereabouts and companions (e.g., Barber, 1996; Brown, Mounts, Lamborn, & Steinberg, 1993). The use of parental knowledge as a proxy for parental monitoring has been criticized because knowledge is a mental state, not a parenting behavior. Moreover, parental knowledge is gained primarily from adolescents' disclosure, not from parents' rules, solicitation of or desire for information (Keijsers, Branje, VanderValk, & Meeus, in press; Kerr & Stattin, 2000; Kerr, Stattin, & Burk, in press; Marshall, Tilton-Weaver, & Bosdet, 2005; Stattin & Kerr, 2000; Stattin, Kerr, & Tilton-Weaver, in press). In the main, psychological control has been compared with parental knowledge, not with parental monitoring as a form of behavioral control.

The second measurement issue that limits conclusions about the distinction between behavioral and psychological control is overlap between the measures used for behavioral and psychological control. Barber's (Barber, 1996; Barber et al., 1994) measure of psychological control contained items from Schaefer's Child's Report of Parent Behavior

Inventory (CRPBI; Schaefer 1965), such as "My mother (father) is a person who ... is always *telling me* how I should *behave*," "... would like to be able to *tell me what to do* all the time," "... wants to control whatever I *do*" [emphasis added]. These items come from Schaefer's subscale of parental direction, which emphasizes parents directing children's behavior. Other items, such as "... is very strict with me" come from the strictness subscale. These behaviors, classified as psychological control, are also aimed at directing children's behavior. Thus, it is not clear from their measurement that the two types of control have distinctly different loci or goals.

It is also worth noting that Schaefer (1965) included intrusiveness as psychological control. Items from the intrusiveness scale, such as "He/she asks me to tell him/her everything that happens when I am away from home," and "He/she is *always checking on what I've been doing* at school or when I'm out" are consistent with the theoretical meaning of parental monitoring (i.e., tracking and surveillance of adolescents' activities), albeit at high levels.

These measures imply that when behavioral control is exerted at high levels, it becomes psychologically intrusive. Because intrusion on psychological autonomy is the hallmark of psychological control (Barber, 1996), this implies that at high levels, behavioral control is not conceptually distinct from psychological control. Moreover, this suggests that behavioral control, at high levels, may have the same locus as psychological control. Thus, Barber's suggestion that the two forms of control have different loci is called into question.

We argue that adolescents are likely to react as negatively to high levels of behavioral control as they would to high levels of psychological control. We posit that high levels of behavioral control could have a negative impact on feelings of autonomy and competence, compromising adolescents' well-being. This would be consistent with a long-standing body of research suggesting that overly strict control and harsh discipline lead to adjustment difficulties (see, e.g., Nix et al., 1999; and work on authoritarian parenting, Baumrind, 1991). These effects, however, are inconsistent with Barber's idea that a *lack* of behavioral control leads to more adjustment difficulties. Control that compromises adolescents' feelings of autonomy and competence is more consistent with Barber's conceptualization of psychological control. It is necessary, then, to understand the conditions under which behavioral control might impinge on adolescents' autonomy and competency. As Bandura (1999) pointed out,

individuals may not be able to control their environment, but they always “have leeway in how they construe it and react to it” (p. 23). A reasonable place to start would be to turn to theories that suggest how people might interpret and respond to control.

Other Theories of Control

There are several theories about how people view and respond to control that are important for understanding the effects of control, particularly with respect to autonomy and competency. We briefly review two that are used as frameworks for this study: self-determination theory (Ryan & Deci, 2000) and reactance theory (Brehm, 1966). According to self-determination theory (Ryan & Deci, 2000), people have three basic, psychological needs that should be fostered for optimal functioning: competence, relatedness, and autonomy. The theory suggests that parental control restricting these needs could undermine adolescents’ emotional and social development. We address this possibility in this study, by asking adolescents to interpret behavioral and psychological control in terms of these needs. Specifically, we asked for interpretations in terms of their competence, mattering to parents (i.e., relatedness), and parental intrusiveness (i.e., the inverse of allowing psychological autonomy).

Reactance theory (Brehm, 1966; Brehm & Brehm, 1981) is another general theory about control that can be applied. According to this theory (Brehm, 1966), people experience psychological reactance or strong negative emotional reactions when free choice over their own behavior is threatened by external forces. Applied to parental control, three aspects of reactance theory are important: (a) the degree to which the free choice of behavior is restricted or threatened, (b) the legitimacy of control, and (c) the importance of the behavior being restricted or threatened. That is, the more restriction or threat of restriction placed on behavior, the more psychological reactance people experience. Reactance is also greater when the control is perceived as illegitimate and when it is over a choice that the individual feels is important.

Thus, reactance theory predicts that when parental control threatens what adolescents feel should be their free choice, adolescents will likely view it negatively. This should be particularly true when there is a high level of control, when the control is not perceived as legitimate, and when the control is over a valued behavior. With these predictions as

guides, we developed a series of research questions that examine the conditions under which behavioral control might not be distinct from psychological control. We first examine how the level of control plays a role in its interpretation.

Level of Control

Recall that Barber (1996) suggested that an absence of behavioral control would lead to maladjustment, whereas an absence of psychological control would lead to better adjustment. This implies that more behavioral control is better. According to reactance theory, more is not necessarily better. We suggest that a curvilinear relation is more likely, as do others (e.g., Mason, Cauce, Gonzales, & Hiraga, 1996). Although adolescents are not expected to be as autonomous as adults and expect some regulation, they expect to gain autonomy as they develop (Feldman & Quatman, 1988). Thus, low to moderate levels of control would likely be accepted by most adolescents, but higher levels should produce reactance and could be viewed negatively. In contrast, psychological control probably encroaches on adolescents’ autonomy even at moderate levels and thus activates psychological reactance.

For our first question, then, we wanted to know how adolescents interpret moderate to high levels of behavioral and psychological control. We expected a specific pattern, where the interpretation of the type of control depended on the level of control. First, high levels of control, regardless of the type of control would generate the most negative interpretations. In comparison, moderate levels of behavioral control would generate the least negative (or most positive) interpretations. Finally, moderate levels of psychological control would likely be somewhere in between. In terms of their psychological needs, adolescents would interpret they are least competent, they mattered least, and parents would be considered most intrusive at high levels of behavioral or psychological control. Adolescents would feel they are more competent, they matter more, and parents are less intrusive at moderate levels of behavioral control, with interpretations of moderate levels of psychological control in the middle.

Domain of Control

For our second question, we asked: Does the domain in which parental control is exerted modify the patterns of adolescents’ interpretations? Adolescents’ views of parental authority differ by domains

(Smetana, 1988). That is, adolescents distinguish between issues (or domains) they view as under their personal control and authority and those they see as regulated by their parents. At times parents agree with adolescents; other times they disagree.

The social domain perspective outlines where and when these differences in authority beliefs occur (Nucci, 1996; Smetana, 1988). According to this perspective, there are at least five domains: moral, conventional, prudential, personal, and multifaceted (i.e., combination of personal and conventional). The personal domain reflects issues pertaining to control over one's body, privacy, and friendships. In essence, the personal domain encompasses issues that have consequences only for the self. Importantly, adolescents satisfy their psychological needs for autonomy and competency when they are able to establish boundaries around issues over which they claim personal control (Nucci, 1996; Smetana, 1988).

In contrast, the moral, conventional, and prudential domains have consequences for self as well as for others but to varying degrees. As a result, adolescents tend to view these domains as legitimately under parental control. Indeed, research indicates adolescents believe the personal domain issues are under their jurisdiction even when parents believe otherwise (Smetana & Asquith, 1994). In contrast, both adolescents and parents tend to view other domains as falling under parents' legitimate authority.

In a recent study, Smetana and Daddis (2002) found that adolescents' reports of maternal psychological control were positively associated with behavioral control (i.e., many rules and unilateral decision making) over personal domain issues. However, there are two weaknesses with their conclusion. First, adolescents' perceptions of psychological control were measured by items taken from the CRPBI (Schaefer, 1965). As we pointed out before, the psychological control measure of the CRPBI includes items that overlap with behavioral control. Second, the two types of control were associated, which may mean they simply co-occur. This seems likely, given that both measure some form of behavioral control at high levels. Theoretically, however, their study has merit. This study provides a more direct test of their interpretations.

In this study, we examine control over two issues that fall into different domains. First, we use friendship choice, which falls into the personal (Nucci, 1996; Nucci & Smetana, 1996) or the "ambiguously personal" (see Smetana & Daddis, 2002) domain. The important point is that adoles-

cents view friendships as personal choice issues, legitimately regulated by adolescents, not parents. This is increasingly the case as adolescents mature. For contrast, we use the issue of alcohol use, which has consequences for their health and safety. As such, alcohol use falls into the prudential domain and is seen as legitimately regulated by parents.

There are two additional reasons for selecting friendships rather than other aspects of the personal domain. First, friendships are particularly important during adolescence (Buhrmester & Furman, 1987), providing avenues for social support and self-development (Hartup & Stevens, 1997). Friendships are, then, an important personal choice, and parental control over friendship choices should generate more negative reactions than over choices about alcohol use. Second, friendships are part of what is targeted by at least one form of behavioral control—monitoring (Brown et al., 1993). Monitoring purportedly reduces contact with undesirable peers. Monitoring allows parents to gain knowledge of their adolescents' companions and activities. This knowledge then allows parents to deter their adolescents from negative peer influences. Although the specific mechanism through which negative peer influences are affected has not been specified, it might be through prohibiting contact with undesirable friends. The choice of alcohol use for the contrasting domain is also particularly apt, as alcohol use is one of the more common problem behaviors during adolescence (Galambos & Tilton-Weaver, 1998; Johnston, O'Malley, Bachman, & Schulenberg, 2008). In short, these choices represent common issues for adolescents that are also viewed differently in terms of legitimate control.

With respect to these two domains, we expected adolescents' interpretations would be further modified. We expected that the patterns of interpretations would be similar within each domain but that control over friendship choices would generate more negative interpretations than control over alcohol use. Consistent with this, adolescents should feel least competent, they matter the least, and parents are most intrusive when friendship choices are the target of either high behavioral or high psychological control. The least negative interpretations should be generated by moderate levels of behavioral control over alcohol use.

Age and Gender Differences

For our final research question, we asked if there were age or gender differences in the patterns of

interpretations. Adolescents' needs, demands, and expectations for psychological and behavioral autonomy grow as they mature (Feldman & Quatman, 1988). As a result, the older the individual, the more negative the interpretation of control. This is consistent with Pomerantz and Eaton's (2000) study in which children felt more behavioral control over homework indicated they were less competent, particularly if they were older. Therefore, we expected older adolescents would have different thresholds for interpreting parental control. In other words, control that might not bother younger adolescents might create reactance in older adolescents. The pattern then would hold primarily for younger adolescents, but would not be so clear cut for older adolescents. For example, older adolescents might see control over alcohol use as illegitimate and thus not differentiate control to the same extent as younger adolescents.

We also expected gender differences in patterns of interpretations because of a large body of research indicating that boys are given and expect more behavioral autonomy than girls (Feldman & Rosenthal, 1991; Fuligni, 1998; Ruble & Martin, 1998). Much like the expectations for age, we expected the pattern to hold primarily for girls but to shift for boys. In essence, we did not expect boys to differentiate behavioral control from psychological control as a function of levels and domains to the same extent as girls.

Method

To test our questions, we employed an experimental design, using hypothetical vignettes to examine three within-subject variables: type of control (behavioral vs. psychological), level of control (moderate vs. high), and domain (personal vs. prudential), and two between-subject variables: grade (7th and 8th vs. 10th and 11th graders) and gender (boys vs. girls), across three dependent variables (competence, mattering to parents, and parental intrusiveness).

Participants

Sixty-seven adolescents ($M = 14.25$ years, $SD = 1.66$, range = 12 to 17), consisting of thirty-two 7th and 8th graders and thirty-five 10th and 11th graders who reside in a Midwestern American city and its surrounding municipalities participated in the study. Of this sample, 32 were boys ($M = 14.56$ years, $SD = 1.72$) and 35 were girls ($M =$

13.97 years, $SD = 1.58$). The participants were predominantly from well-educated Caucasian families with a majority (95.5%) self-reporting as being White or from a Northern European ethnic background. Adolescents reported that 68.7% of mothers and 71.2% of fathers had completed at least college or university education, among which 46% of the mothers and 35% of fathers were reported to have completed graduate or professional school. Furthermore, more than a half of (66%) the participants came from two-parent families, with 12% living with a combination of biological parent and stepparent. The remaining reported that their living situation was different from others (e.g., lived with a single parent, spent weekdays with their mother and weekends with their father). A majority of the participants had one (50.7%) or two (22.4%) siblings in the family.

Adolescents' ratings of competence, mattering to parents, and intrusiveness did not differ as a function of whom they lived with nor by their parents' educational attainment (analyses of variance [ANOVAs] were all nonsignificant, $ps > .05$). Data were complete for all but 3 participants: Two were missing data on competence and mattering, and 1 was missing data on intrusiveness.

Procedures

We recruited the participants via invitations posted in the university electronic news, bulletin boards at various places where either parents of adolescents or adolescents are likely to visit and through personal connections. The interested individuals contacted the researcher and information packages were either mailed to their home or given to the referent. The packets contained the purpose of the study, consent and assent forms to be signed, brief instructions, preaddressed stamped envelopes, and the questionnaire. We used active consent procedures in which parents received letters of information and provided signed consent for their adolescents' participation, whereas adolescents signed a separate assent form. The questionnaire was designed to take about half an hour to complete. The overall participation rate was 84.8%, with the remaining individuals not returning packages.

To minimize order effects, we prepared five sets of counterbalanced vignettes using a random number generator available online (<http://www.random.org/>). The vignettes were randomly distributed to the participants, with 17.9% of the participants receiving Version 1, 17.9% receiving Version 2, 20.9% receiving Version 3, 19.4% receiving Version

4, and 23.9% receiving Version 5. We found no significant order effects for adolescents' responses (*F*s ranged from 1.02 to 1.20, *p*s > .05). Following completion and return of the study packet, the adolescents were compensated for their time with an honorarium of their choice for \$10 in the form of movie passes, gift certificates, or a check by mail.

Materials

We constructed eight vignettes by manipulating types, levels, and domains of parental control using Pomerantz and Eaton's (2000) vignettes as examples (Figure 1). The vignettes described hypothetical interactions between "parents" (mother and father) and an adolescent. We used aggregated "parents" as a referent based on findings that adolescents' reports of behavioral and psychological control did not differ as a function of the gender of parents

(Albrecht, Galambos, & Jansson, 2007; Conger, Conger, & Scaramella, 1997). The adolescents were instructed to imagine that the parents in the vignettes were their parents and to respond to the sets of questions that accompanied each vignette.

Parental control: Type and level. Four vignettes assessed behavioral control, which tapped setting and enforcing rules and discipline. By setting limits and enforcing rules and discipline, parents ensure that adolescents obey parents' directions (Barber et al., 1994). In the scenario depicting moderate levels of behavioral control, parents exercise control by setting limits and conditions on the adolescent's behavior, whereas at high levels, the parents are depicted as prohibiting the behavior (i.e., severely limiting behavior). The remaining four vignettes depicted guilt inducement, a dimension of psychological control. In the vignettes depicting moderate levels of psychological control, parents

Personal Domain:

"You bring home a new friend and your parents decide they don't like him or her."

Levels	Behavioral Control	Psychological Control
Moderate	They tell you that you need to wait until they know your friend better before you can spend time with him/her without them around.	They tell you that they are disappointed in your choice of friends and that you should consider how keeping this friend would make them feel.
High	Right after your friend leaves, your parents forbid you to spend time with your friend again.	They tell you that you've let them down, that they are ashamed that you would choose such a person to be your friend, and that if you really cared about them, you would find a better friend.

Prudential Domain:

"You want to go somewhere with friends, but your parents suspect there might be alcohol around."

Levels	Behavioral Control	Psychological Control
Moderate	After discussing this, they tell you that you can go, provided an adult goes along, and that you are back home at a reasonable time.	They tell you that they are surprised that you would consider doing this, and that they would be ashamed of you if you still went.
High	They won't allow you to go to the party, telling you that if you disobey and go anyway, you will be grounded (restricted to the house) for three months.	They tell you they are ashamed of you for considering going where there would be alcohol, and that you must be ungrateful for everything they've done if you would risk getting caught with alcohol.

Figure 1. Vignettes by control type, level, and domain.

communicate disapproval with some guilt inducement (e.g., shaming, showing disappointment) whereas at high levels, they communicate disapproval but with high levels of guilt inducement.

Authority domains. Two authority domains, personal and prudential, were also manipulated based on the previous study by Smetana and Asquith (1994). We chose the personal and prudential domains to tap issues that are perceived as being regulated primarily by adolescents or by their parents, respectively. For the personal domain, we chose adolescent selection of a friend, whom parents decided they do not like. For the prudential domain, we selected a scenario in which the adolescent attempts to go to a party where parents suspect that alcohol may be involved.

Pilot testing. Prior to data collection, we pilot tested the vignettes to check the manipulation of control levels. Using a 3-point response scale (1 = *low*, 2 = *moderate*, and 3 = *high*), five developmental experts and five parents of adolescents evaluated the vignettes for levels by indicating the level of control they felt was depicted. The anchor for low levels of control was intentionally included to ascertain whether each measure assessed the intended level. In all cases, the mean and modal ratings were consistent with the intended level of control: For high levels of control, the average mean was 2.8, with modes of 3 for all the vignettes; for moderate levels of control, the average mean was 2.2 and the modal responses were all 2.

In addition, we checked the veridicality of the vignettes with 32 individuals (22 late adolescents, 5 developmental experts, and 5 parents of adolescents). These individuals rated four items using a 5-point scale regarding the degree of realism and believability of the scenarios (e.g., 1 = *not at all realistic* to 5 = *very realistic*). The results showed that the contents of vignettes reflect the everyday interactions between parents and an adolescent fairly well: for realism, $M = 3.64$ for the late adolescents and $M = 3.70$ for experts and parents; for believability, $M = 4.73$ for the late adolescents and $M = 4.50$ for experts and parents.

Overall, these results indicate that the vignettes capture the intended level of control and contexts and choices parents and adolescents might experience in everyday situations. Thus, we made no modifications to the vignettes.

Measures

Demographic information. Participants provided their current grade (7th–8th or 10th–11th) and gen-

der (boys or girls), as well as demographic information (e.g., ethnicity, parental education, and family structure).

Dependent measures. We assessed adolescents' interpretations of control in terms of competence, mattering to parents, and intrusiveness. Eight items followed each vignette, preceded by "If my parents did this, it would mean that my parents ..."

For interpretations of competence, the two items were adapted from Greenberger and Sørensen's (1974) self-reliance scale, which has well-established psychometric properties. Although we originally included three items, we dropped one item after pilot testing due to low reliabilities. Each item was rated on a 7-point scale (1 = *agree strongly* to 7 = *disagree strongly*). The mean of the two reverse-coded items ("My parents ... think I can make good decisions by myself," "... want me to think for myself") was used, with higher values indicating higher levels of perceived competence. Cronbach's alphas ranged from .79 to .95 ($M = 0.87$).

For interpretations of mattering to parents, three reverse-coded items were adapted from the Mattering to Others Questionnaire (Marshall, 2001; "My parents ... feel I am important to them," "... feel I matter to them," and "... notice my feelings"). Each item was rated on a 7-point scale (1 = *agree strongly* to 7 = *disagree strongly*), with a scale created from the mean of the three items. Higher values represent higher levels of perceived mattering to parents. Cronbach's alphas ranged from .67 to .84 ($M = 0.77$).

For interpretations of intrusiveness, three items were generated from existing measures (Barber, 1996; Schaefer, 1965). The items ("my parents ... want to control whatever I do" [reverse coded], "... don't want to invade my privacy," and "... want to know everything I do" [reverse coded]) were rated on a 7-point scale (1 = *agree strongly* to 7 = *disagree strongly*). The mean was calculated, with higher values indicating higher levels of perceived intrusiveness. Cronbach's alphas for this measure ranged from .67 to .81 ($M = 0.73$).

Results

Descriptive Analyses

We first examined descriptive statistics and intercorrelations of the study variables (Table 1) to assess variability and collinearity issues. The dependent variables were intercorrelated with each other: Adolescents who interpreted parental control as indicative of less competence tended to view

Table 1
Descriptive Statistics Among Study Variables

Variable	M (SD)	Range	Possible range	1	2	3	4
Dependent variable							
1. Competence	3.28 (1.22)	1.25–6.33	1.00–7.00	—			
2. Mattering	4.68 (0.98)	2.21–7.00	1.00–7.00	.65***	—		
3. Intrusiveness	4.87 (1.02)	1.71–6.67	1.00–7.00	-.64***	-.45***	—	
Independent variable							
4. Grade ^a		7th–8th = 32, 10th–11th = 35		-.47***	-.28*	.24*	—
5. Gender ^a		Boys = 32, girls = 35		.26*	-.01	-.18	.02

Note. $N = 67$.

^aCategorical variable, effect coded -1 for 7th–8th grades and for girls.

* $p < .05$. *** $p < .001$.

parental control as indicating that they matter less to parents and that parents were more intrusive. Adolescents who interpreted parental control as meaning that they matter less to parents also viewed parental control as more intrusive.

Plan of Analysis

To examine our research questions, we used the regression procedures described by Judd, McClelland, and Ryan (2009). Specifically, we created variables that coded the main effects of type (behavioral vs. psychological control), level (moderate vs. high), and domain (friendship choice vs. alcohol use), as well as the interactions among the within-subject factors. Each was regressed separately on the two contrast-coded predictors (-1 for 7th and 8th, 1 for 10th and 11th; -1 for girls, 1 for boys) that coded the between-subject factors. The test of the intercepts in these models is the test of the within-subject effects; tests of the coefficients associated with each of the contrast-coded predictors test whether the within-subject effects depend on either gender or grade. For example, the contrast representing the main effect of control type is essentially equivalent to a difference score between the ratings of competence, mattering, or intrusiveness in the behavioral versus psychological control conditions. Similarly, the contrast for the interaction between control type and level is essentially a difference score between difference scores, testing a 2×2 interaction. These analyses are equivalent to a mixed model ANOVA (see Judd et al., 2009; Maxwell & Delaney, 2003, for a full description of the analytical technique).

Thus, our research questions were addressed by examining the following interactions: (a) Type \times Level, (b) Type \times Level \times Domain, and (c) Type \times Level \times Domain by either grade or gender. Signifi-

cant interactions were followed by contrasts specifically created to examine the patterns we expected. For the Type \times Level interaction, three contrasts were examined: (a) high levels of behavioral control were first compared to high levels of psychological control, with the expectation that adolescents' interpretations would not be significantly different; (b) high levels of control (averaged across behavioral and psychological control) were compared with moderate levels of behavioral control, with the expectation that high levels of control would be interpreted more negatively than moderate levels of behavioral control; and (c) moderate levels of psychological control were compared with moderate levels of behavioral control, with the expectation that moderate levels of psychological control would be interpreted more negatively than moderate levels of behavioral control.

For the three-way interaction between type, level, and domain, we repeated these contrasts first for friendship choice, then for alcohol use. In addition, we compared the four separate means (i.e., moderate and high behavioral control, moderate and high psychological control) across domains. We expected the patterns to be similar but with different ratings across domain conditions. In other words, we expected less competence and mattering but more intrusiveness in the friendship condition than in the alcohol use condition. Significant four-way interactions between type, level, and domain by either grade or gender were probed in a similar manner, looking for pattern differences in grade or gender but expecting less conformity to the expected patterns for older adolescents and for boys.

Tests of Research Questions

Interpretations of competence. For competence, we found significant main effects for level and for

domain. Specifically, adolescents viewed high levels of control as indicating less competence ($M = 2.66$, $SD = 1.42$) than moderate control ($M = 3.90$, $SD = 1.19$), $b_0 = -1.78$, $t(64) = -11.43$, $p = .001$. Control over friendship choice was seen as indicating less competence ($M = 3.13$, $SD = 1.26$) than control over alcohol use ($M = 3.44$, $SD = 1.30$), $b_0 = -0.43$, $t(64) = -3.10$, $p = .004$. The main effect for type of control, however, was not significant, $b_0 = 0.17$, $t(64) = 0.87$, $p = .388$.

In answer to our first research question, interpretations of the type of control were moderated by the level of control, as indicated by a significant Type \times Level interaction, $b_0 = 0.39$, $t(64) = 2.22$, $p = .030$ (see Table 2 for the means and standard deviations). Probes revealed a significant difference between high levels of behavioral control and high levels of psychological control, $t(66) = 2.21$, $p = .031$, where adolescents saw parents using high levels of behavioral control as indicating less competence than when parents used high levels of psychological control. The second probe, comparing high levels of control to moderate behavioral control, was also significant, $t(66) = 9.06$, $p = .001$, with high levels of control indicating less competence than moderate behavioral control. The final comparison between

moderate psychological and moderate behavioral psychological control was not significant, $t(66) = 0.60$, $p = .549$. This two-way interaction was not further moderated by domain, $b_0 = -0.00$, $t(64) = -0.02$, $p = .988$, as suggested in our third research question. Nor were the four-way interactions examining Type \times Level \times Domain by either grade or gender significant: for grade, $b = -0.13$, $t(64) = -0.76$, $p = .448$; for gender, $b = 0.20$, $t(64) = 1.21$, $p = .230$.

In summary, our predictions were partially supported. Although there was a significant difference between high behavioral and high psychological control, it was in a direction that was unexpected, with high behavioral control interpreted *more* negatively than high psychological control. However, this is evidence that behavioral control is *more* problematic than psychological control, which is more consistent with our arguments than with the idea that behavioral control is linear in its effects, with more control better than less control. Moreover, both high behavioral and high psychological control were interpreted more negatively than was moderate behavioral control, as was expected. In addition, although the direction of effects for domain was not moderated, they were in the expected direction, with control over friendship

Table 2

Results of Probes for Significant Two-Way (Type \times Level) and Three-Way (Type \times Level \times Domain) Interactions

Contrasts	M (SDs)	
	Competence	Mattering
Type \times Level		
High behavioral versus high psychological	2.48 (1.54)/2.85 (1.60)*	4.43 (1.17)/4.40 (1.35)
Moderate behavioral versus high behavioral and high psychological	3.96 (1.28)/2.66 (1.41)***	5.17 (1.01)/4.41 (1.13)***
Moderate behavioral versus moderate psychological	3.96 (1.28)/3.84 (1.55)	5.17 (1.01)/4.71 (1.18)***
Type \times Level \times Domain		
Friendship (personal)		
High behavioral versus high psychological	—	4.05 (1.40)/4.27 (1.43)
Moderate behavioral versus high behavioral and high psychological	—	5.01 (1.29)/4.16 (1.26)***
Moderate behavioral versus moderate psychological	—	5.01 (1.29)/4.47 (1.38)***
Alcohol use (prudential)		
High behavioral versus high psychological	—	4.84 (1.27)/4.57 (1.49)
Moderate behavioral versus high behavioral and high psychological	—	5.35 (1.14)/4.69 (1.14)***
Moderate behavioral versus moderate psychological	—	5.35 (1.14)/4.98 (1.27) [†]
Moderate behavioral (friendship) versus moderate behavioral (alcohol)	—	5.01 (1.29)/5.35 (1.14) [†]
Moderate psychological (friendship) versus moderate psychological (alcohol)	—	4.47 (1.39)/4.98 (1.27)**
High behavioral (friendship) versus high behavioral (alcohol)	—	4.05 (1.40)/4.84 (1.27)***
High psychological (friendship) versus high psychological (alcohol)	—	4.27 (1.43)/4.57 (1.49) [†]

[†] $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

choice interpreted more negatively than control over alcohol use.

Interpretations of mattering to parents. For mattering, two main effects were significant, and one marginally significant. Adolescents felt they would matter less if their parents used psychological control ($M = 4.56$, $SD = 1.18$) compared to if their parents used behavioral control ($M = 4.80$, $SD = 0.96$), $b_0 = -0.29$, $t(64) = -1.92$, $p = .059$. They also felt they would matter less if their parents used high levels of control ($M = 4.42$, $SD = 1.12$) compared to moderate control ($M = 4.94$, $SD = 0.96$), $b_0 = -0.71$, $t(64) = -5.66$, $p = .001$, and if parents controlled their choice of friends ($M = 4.45$, $SD = 1.12$) compared to controlling choices about alcohol use ($M = 4.92$, $SD = 0.94$), $b_0 = -0.64$, $t(64) = -5.40$, $p = .001$.

Again, the two-way interaction, testing our question of whether interpretations of control type were moderated by level, was significant, $b_0 = 0.30$, $t(64) = 2.69$, $p = .009$ (see Table 2 for the means and standard deviations). All three contrasts were as expected. Specifically, adolescents did not interpret parents' use of high behavioral control differently from parents' use of high psychological control, $t(66) = 0.25$, $p = .804$. However, when parents were depicted as using high levels of control, adolescents saw this as meaning they matter less than when parents used moderate behavioral control, $t(66) = 6.17$, $p = .001$. In addition, moderate use of psychological control was viewed as indicative of less mattering than was moderate use of behavioral control, $t(66) = 3.55$, $p = .001$.

This was followed by a test of the three-way interaction, to test whether interpretations based on type and level were further moderated by domain. The interaction was significant, $b_0 = 0.24$, $t(64) = 2.31$, $p = .024$. As can be seen in Table 3, the comparisons were as expected. There were no significant differences between high levels of behavioral and psychological control, either over friendship choice, $t(66) = 1.40$, $p = .166$, or over alcohol use, $t(64) = 1.38$, $p = .172$. In both domains, high levels of control were seen as indicating less mattering than moderate use of behavioral control over friendship choice, $t(66) = 5.74$, $p = .001$, or over alcohol use, $t(64) = 4.15$, $p = .001$. The third comparison was also significant for both friendship choice, $t(66) = 3.49$, $p = .001$, and marginally for alcohol use, $t(64) = 1.90$, $p = .062$. Moderate psychological control about friendship choice or about alcohol use was interpreted as meaning the adolescent would matter less than

when parents used moderate levels of behavioral control in the same domain.

The final set of comparisons all indicated that although the pattern was similar in both domains, control over friendship choice was generally viewed more negatively. Moderate behavioral control over friendship was seen as indicating less mattering than moderate behavioral control over alcohol use, $t(64) = 1.97$, $p = .053$. Moderate psychological control over friendship indicated less mattering than did moderate psychological control over alcohol use, $t(64) = 3.24$, $p = .002$. Parents depicted as using high behavioral control over friendships were seen as indicating less mattering than parents doing the same over alcohol use, $t(64) = 4.79$, $p = .001$. And finally, high psychological control over friendships was seen as indicating less mattering than high psychological control over alcohol use, $t(64) = 1.80$, $p = .077$.

Taken together these results support our suggestion that high levels of behavioral control and psychological control are both interpreted negatively. Moreover, this pattern suggests adolescents felt they would matter least if parents were excessively controlling over personal choices (i.e., friendship choice) and felt they matter most when parents are moderately restrictive over prudential domain issues (i.e., alcohol use).

We then tested the four-way interactions, to determine whether the Type \times Level \times Domain pattern was further moderated by gender or grade. Gender marginally moderated the pattern further (see Table 3 for the means and standard deviations), $b = 0.20$, $t(64) = 1.93$, $p = .059$, whereas grade did not, $b = 0.08$, $t(64) = 0.81$, $p = .420$. For the girls, the pattern was as expected. Parents who were depicted as using high behavioral control over friendship choices or alcohol use were not viewed as significantly different by girls than were parents depicted using high psychological control over friendship choice, $t(34) = 0.79$, $p = .436$, or over alcohol use, $t(33) = 0.02$, $p = .842$. In comparison, high levels of control, whether behavioral or psychological were seen as indicating less mattering than was moderate use of behavioral control over friendship, $t(34) = 4.27$, $p = .001$, or over alcohol use, $t(33) = 3.20$, $p = .003$. For both friendship choice, $t(34) = 2.00$, $p = .054$, and alcohol use, $t(33) = 2.08$, $p = .045$, moderate psychological control was viewed as indicating less mattering than moderate behavioral control. In addition, control over friendship choice was viewed as indicating less mattering than control over alcohol use, for moderate behavioral control, $t(33) = 1.95$, $p = .059$;

Table 3
Results for Probes of Significant Four-Way Interactions

Contrasts	<i>M</i> (<i>SDs</i>) for mattering	
	Girls	Boys
Type × Level × Domain		
Friendship (personal)		
High behavioral versus high psychological	3.97 (1.57)/4.13 (1.12)	4.13 (1.21)/4.42 (1.19)
Moderate behavioral versus high behavioral and high psychological	5.02 (1.44)/4.05 (1.48)***	4.99 (1.14)/4.28 (0.99) ***
Moderate behavioral versus moderate psychological	5.02 (1.44)/4.55 (1.62) [†]	4.99 (1.14)/4.38 (1.08) **
Alcohol use (prudential)		
High behavioral versus high psychological	4.77 (1.45)/4.72 (1.63)	4.90 (1.07)/4.41 (1.31) [†]
Moderate behavioral versus high behavioral and high psychological	5.54 (1.18)/4.75 (1.29)**	5.15 (1.07)/4.64 (0.97)**
Moderate behavioral versus moderate psychological	5.54 (1.18)/4.94 (1.31)*	5.15 (1.06)/5.03 (1.25)
Moderate behavioral (friendship) versus moderate behavioral (alcohol)	5.02 (1.44)/5.54 (1.18) [†]	4.99 (1.14)/5.15 (1.07)
Moderate psychological (friendship) versus moderate psychological (alcohol)	4.55 (1.62)/4.94 (1.31)*	4.38 (1.08)/5.03 (1.25)*
High behavioral (friendship) versus high behavioral (alcohol)	3.97 (1.57)/4.77 (1.45)***	4.13 (1.21)/4.90 (1.07)**
High psychological (friendship) versus high psychological (alcohol)	4.13 (1.12)/4.72 (1.63)*	4.42 (1.19)/4.41 (1.31)
<hr/>		
<i>M</i> (<i>SDs</i>) for intrusiveness		
	Younger	Older
Type × Level × Domain		
Friendship (personal)		
High behavioral versus high psychological	4.89 (1.69)/4.75 (1.41)	5.58 (1.34)/5.56 (1.38)
Moderate behavioral versus high behavioral and high psychological	4.44 (1.25)/4.82 (1.39) [†]	4.81 (1.52)/5.57 (1.22)**
Moderate behavioral versus moderate psychological	4.44 (1.25)/4.40 (1.28)	4.81 (1.52)/5.03 (1.28)
Alcohol use (prudential)		
High behavioral versus high psychological	5.11 (1.35)/4.83 (1.47)	5.18 (1.44)/5.50 (1.51)
Moderate behavioral versus high behavioral and high psychological	4.08 (1.65)/4.97 (1.19)**	4.66 (1.36)/5.34 (1.22)**
Moderate behavioral versus moderate psychological	4.08 (1.65)/4.52 (1.41)	4.66 (1.36)/4.49 (1.32)
Moderate behavioral (friendship) versus moderate behavioral (alcohol)	4.44 (1.25)/4.08 (1.65)	4.81 (1.52)/4.66 (1.36)
Moderate psychological (friendship) versus moderate psychological (alcohol)	4.40 (1.28)/4.52 (1.41)	5.03 (1.28)/4.49 (1.32)*
High behavioral (friendship) versus high behavioral (alcohol)	4.89 (1.69)/5.11 (1.35)	5.58 (1.34)/5.18 (1.44)
High psychological (friendship) versus high psychological (alcohol)	4.75 (1.41)/4.83 (1.47)	5.56 (1.38)/5.50 (1.51)

[†] $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

for moderate psychological control, $t(33) = 2.04$, $p = .050$; for high behavioral control, $t(33) = 3.56$, $p = .001$; and for high psychological control, $t(33) = 2.43$, $p = .021$.

The pattern for boys, as expected, was less consistent compared with girls. For friendship issues, however, the pattern for boys was as expected: No significant differences were found between high levels of behavioral and psychological control, $t(31) = 1.17$, $p = .251$. However, boys interpreted high levels of control over friendships as indicative of less mattering than moderate behavioral control, $t(31) = 3.86$, $p = .001$. And moderate psychological control over friendships meant less mattering than did moderate behavioral control, $t(31) = 3.09$, $p = .004$.

For control over alcohol use, however, the pattern was different. Significant differences were

found between high levels of the two types of control, $t(30) = 2.01$, $p = .053$. Boys interpreted high levels of psychological control over alcohol use as indicative of less mattering than high levels of behavioral control. As expected, high levels of control over alcohol use were viewed as indicating less mattering than was moderate use of behavioral control, $t(30) = 2.67$, $p = .012$. However, moderate psychological control and moderate behavioral control were not viewed differently, $t(30) = 0.46$, $p = .648$. Of the four comparisons between domains, significant differences were found for moderate psychological control, $t(30) = 2.51$, $p = .018$, and high levels of behavioral control, $t(30) = 3.16$, $p = .004$. Boys saw moderate psychological control and high behavioral control over friendships as indicating less mattering than the same behaviors exerted over alcohol use.

To summarize, these results were as expected, with the pattern fully evident for girls but slightly less so for boys. In fact, contrary to expectations, boys interpreted high levels of psychological control over alcohol use more negatively than high levels of behavioral control and did not distinguish between moderate levels of control exerted over alcohol use. Thus, their thresholds, particularly in the prudential domain, were different from those of girls.

Interpretations of intrusiveness. Only one of the three main effects was significant for interpretations of intrusiveness: High levels of control were seen as more intrusive ($M = 5.18$, $SD = 1.02$) than moderate levels of control ($M = 4.56$, $SD = 1.20$), $b_0 = 0.84$, $t(65) = 5.40$, $p = .001$. Of the interactions, only the four-way interaction of level, type, domain, and grade was significant (see Table 3 for means and standard deviations), $b = -0.24$, $t(65) = -2.19$, $p = .032$: for Type \times Level, $b_0 = -0.10$, $t(65) = -0.73$, $p = .468$; for Type \times Level \times Domain, $b_0 = -0.02$, $t(65) = -0.21$, $p = .838$; for Type \times Level \times Domain \times Gender, $b = -0.15$, $t(65) = -1.39$, $p = .170$. This answered our fourth research question, asking if the pattern for type, level, and domain was further moderated by gender or grade. Although the interaction indicated moderation, the probes revealed patterns less consistent with our expectations.

Starting with results that were consistent for both age groups, there were no significant differences in interpretations of high levels of control, either for control over friendships for younger adolescents, $t(31) = 0.54$, $p = .590$, and for older adolescents, $t(34) = 0.09$, $p = .926$, or for control over alcohol use for younger adolescents, $t(30) = 1.03$, $p = .313$, and for older adolescents, $t(34) = 1.15$, $p = .258$. That is, younger adolescents viewed high levels of behavioral control over friendships and alcohol use as intrusive as high levels of psychological control over the same issue. Similarly, older adolescents saw high levels of behavioral control over friendships and alcohol use as intrusive as high levels of psychological control over the same issues.

Furthermore, as expected, both younger and older adolescents viewed high levels of control as more intrusive than moderate use of behavioral control over friendship choice for younger adolescents, $t(31) = 1.83$, $p = .077$, and for older adolescents, $t(34) = 3.01$, $p = .005$. They also differentiated between high levels of control and moderate levels of behavioral control over choices of alcohol use for younger adolescents, $t(30) = 3.05$, $p = .005$, and for older adolescents, $t(34) = 2.95$, $p = .006$. Specifically, younger adolescents saw high levels of control as

more intrusive than moderate behavioral control, whether over friendships or alcohol use. The same was true for older adolescents.

Divergence from the expected patterns emerged in the comparisons of moderate behavioral control to moderate psychological control, where no significant differences were found for either group or domain (Table 3). Specifically, for younger adolescents, moderate behavioral control and moderate psychological control were viewed as equally intrusive both for friendships, $t(31) = 0.19$, $p = .852$, and for alcohol use, $t(30) = 1.35$, $p = .188$. The same pattern was true for older adolescents, for both for friendships, $t(34) = 0.88$, $p = .382$, and for alcohol use, $t(34) = 0.60$, $p = .552$. In addition, none of the comparisons between similar types and levels of control across domains was significant (e.g., moderate behavioral control over friendships compared to moderate behavioral control over alcohol use; values for all t tests were $ps > .10$) except for one comparison for older adolescents. For them, moderate psychological control over friendships was seen as more intrusive than moderate psychological control over alcohol use, $t(34) = 2.37$, $p = .023$.

In short, the evidence supporting our expectations for interpretations of control as intrusive was much spottier and, if anything, slightly more consistent for older adolescents than for younger. Nevertheless, the pattern for high levels of control was consistent with our expectations. Both younger and older adolescents viewed high levels of control as intrusive regardless of the type of control.

Discussion

Overall, this study makes two contributions to the empirical literature on parental control. First, it provides evidence that the current conceptualizations of behavioral control and psychological control need to be refined. Second, adolescents' interpretations of parenting behavior need to be given consideration, both in terms of defining parenting behaviors and in terms of the relation of parenting behaviors to adolescents' adjustment.

Revising the Theoretical Models of Behavioral and Psychological Control

The pattern of results is not consistent with theoretical suggestions that behavioral control and psychological control are linear and conceptually orthogonal constructs (Barber, 1996). If that were

the case, high levels of behavioral control would be more acceptable than high levels of psychological control and thus interpreted differently. Our results indicate that adolescents' interpretations of behavioral and psychological control differ at moderate but not at high levels. One exception was found: High levels of behavioral control were interpreted as indicating less competence than were high levels of psychological control. This difference, however, is even less consistent with suggestions that behavioral control is better than psychological control.

Our results were consistent with other emerging evidence that calls the distinction between behavioral and psychological control into question (Hasebe, Nucci, & Nucci, 2004). Smetana and Daddis (2002) argued that the distinction between behavioral control and psychological control becomes blurred when control is applied to the domain of behaviors that adolescents consider under their personal control. Indeed, not only are our results in agreement with their theoretical position, but also our study design provides more direct support of their findings. That is, the positive associations Smetana and Daddis found between behavioral control and perceptions of psychological control emerged because adolescents interpret both as indicative of less mattering to parents and more intrusiveness. Our results suggest that psychological processes of adolescents are also affected by both behavioral control and psychological control when they are exerted at high levels and over issues of personal choice.

Why do our results differ so dramatically from what theory of parenting might suggest? We believe that this is in part because our choices of behaviors to represent behavioral and psychological control were consistent with construct definitions. That is, rather than using parental knowledge as behavioral control, we used restrictions at moderate and high levels. However, we also believe that the use of parental goals or locus of parenting to define parental control is insufficient. Thus, we argue that defining parenting behaviors should take into account the transactional nature of parenting, fully incorporating adolescents' interpretations, needs, and reactions. This would include fully determining the conditions under which parental control is interpreted as impinging on adolescents' needs. Thus, reactance theory and self-determination theory provided us with a good start for this.

However, other research also bears consideration. Petronio's (2002; Petronio & Caughlin, 2006) work on privacy boundaries, for example, suggests

that adolescents negotiate privacy boundaries within and outside the family, and that violation of privacy boundaries is met with negativity. There is little research that provides information about when parental control, as currently construed, compromises these negotiations.

Furthermore, to fully incorporate adolescents' interpretations of their parents' behaviors, it will likely be important to recognize the possibility of multiple, but seemingly contradictory interpretations. As Pomerantz and Eaton (2000) pointed out, some adolescents may view parental control as meaning they lack competence but at the same time feel their parents care for them. We conducted some preliminary pattern-centered analyses, which suggested that this is indeed the case. A minority of our participants interpreted high levels of behavioral control in the personal domain as indicative of competence, mattering to parents, and intrusiveness. Thus, an important venue for additional research would be to determine the variability in patterns of interpretations, as well as their import for adolescents' adjustment.

Implications of Adolescents' Interpretations

Perhaps the most important question for the future investigation is whether adolescents' interpretations have implications for their well-being and development. We assert that we have begun this process by examining aspects of adolescents' well-being that are themselves forms of adjustment: competence, mattering to parents, and autonomy. Self-competence and psychological autonomy are both recognized as important aspects of adjustment (Bandura, 1999; Ryan & Deci, 2000). In addition, perceptions of mattering to others, including parents, are linked to other indices of well-being, such as more global self-worth, a sense of purpose in life, and less depression and anxiety (Marshall, 2001; Taylor & Turner, 2001).

We suggest several more possibilities. If adolescents feel unduly constrained by their parents' control, or interpret their parents' control behaviors as a restriction of free will, consistent with reactance theory, they would likely seek avenues for reasserting their autonomy. This might include continuing prohibited behavior or friendships or seeking leisure contexts in which adults are not present, which are more likely to lead to increases in problem behaviors (Kerr, Stattin, Biesecker, & Ferrer-Wreder, 2003).

Other adolescents may avoid their parents or become depressed because they lack control or do

not feel competent to direct their own lives. Research in social psychology would predict that individuals who cannot exert control over their own lives eventually become depressed (cf. research on learned helplessness and depression; e.g., Brown & Siegel, 1988).

Some adolescents may turn inward to assert autonomy through engaging in excessive self-control to compensate. Such control may find expression in forms like maladaptive perfectionism, which has been shown to mediate the link between psychological control and increases in depression (Soenens et al., 2008).

Some adolescents, however, may not interpret even highly controlling behavior as intrusive. For example, adolescents who are in enmeshed relationships with their parents, for whom the boundaries between self and other are blurred, may not feel the need for autonomy as keenly as other adolescents do. Further research needs to clarify, then, if adolescents' interpretations are an important link between parenting behaviors and adolescents' adjustment, as well as under what conditions the mediational link exists. Such conditions will likely include developmental levels and gender as suggested by our results. At a minimum, our findings suggest that prevention and intervention strategies should take adolescents' interpretations into account. These results, when considered in light of other studies showing similar results, suggest that the advice to reduce deviance and contact with deviant peers through more behavioral control may backfire or at the very least, have unintended effects.

Future Research and Conclusions

A few limitations need to be addressed when interpreting the results, yet these limitations serve an avenue for future research. The first concerns the characteristics of our participants, who are mainly from well-educated, European American families. There are likely selection effects operating, with less sampling of adolescents with adjustment difficulties, from poorer families, or of non-European descent. It may be that interpretations of control are even more negative among adolescents with adjustment problems. However, cultural differences in the construal of family relationships could modify adolescents' interpretations and may explain ethnic differences in the link between parental behavioral and psychological control and adolescents' outcomes (Barrera, Biglan, Ary, & Li, 2001; Bean, Bush, McKenry, & Wilson, 2003). For

example, Rohner and Pettengill (1985) showed that Korean adolescents tended to equate intrusive control with more parental warmth and less neglect, which is somewhat different from results typically obtained from the European American samples, who are more likely to view such parental control as hostile or repressive. Unless conflict between parents and adolescents is frequent and intense, adolescents from collectivistic culture may see parental control as expressions of parental love and caring (e.g., Yau & Smetana, 1996).

Although it is often confounded with ethnicity, socioeconomic status also seems to be linked with the likelihood of parental use of behavioral and psychological control. Research suggests that parents whose children reside in high-risk environments (who are often also poor and minority families) feel obligated to use harsher or more controlling parenting to protect their adolescents (e.g., Dearing, 2004; Hogan & Kitagawa, 1985). Thus, under these conditions, more control may communicate to adolescents that they matter more than it would to adolescents in safer living conditions (Dearing, 2004). Future research should include variables that tap these cultural differences as well as adolescents with diverse environmental contexts to examine how similarly or differently they interpret the same parenting behaviors.

Finally, although our choice of levels and domains of behavioral and psychological control were guided by theory and previous research, assessment of only two levels and two domains limits the generalization of the results to other levels and domains of control. Our intentions were to test whether more control is better between the range of moderate and high levels of control. Thus, the complete picture of effects of control requires inclusion of low levels. However, adding conditions would have increased the number of vignettes to an unwieldy level.

Nevertheless, one of the strengths of our study was the use of experimental methods, which give us more confidence in concluding that adolescents' interpretations matter. Furthermore, hypothetical vignettes allowed us to examine high levels of parenting that might be underreported in survey data. Our pilot results suggest that the vignettes are realistic and believable, providing some assurance that their use was appropriate. However, it is still important to demonstrate these interpretations would be made of actual parental control behaviors. Also, treating parents as a single entity may have elicited different impressions than if mothers' and fathers' control had been assessed separately.

Thus, extension of this study includes investigation into adolescents' interpretations of their parental control behaviors to provide a more complete picture of the process of parental control.

Taking a developmental perspective, it is also important to examine developmental changes in adolescents' interpretations of parental control, as well as the developmental consequences that may result from changes in interpretations. Ongoing interactions between parents and adolescents likely lead adolescents to develop expectations for future interactions on which adolescents may base their interpretations of parental behavior. The specific outcome of parental control may also be an important consideration. For example, parents' limit setting resulting in helping adolescents avoid negative consequences is likely to be viewed differently than limit setting that deprives adolescents of opportunities for social interactions. In short, future research should include the use of longitudinal designs, where interindividual differences in intraindividual change can be assessed.

In conclusion, the results of this study provide an opening for considering a stronger bidirectional approach. In doing so, theoretical accounts of parenting need to more fully recognize the ways in which adolescents are like other humans—cognizant of their desires and able to articulate and act on their needs even when those desires and needs conflict with what adults believe are their best interests.

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