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EMPIRICAL RESEARCH

The Relationship of Parental Control to Youth Adjustment: Do Youths' Feelings About Their Parents Play a Role?

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Abstract Recent research suggests that youths interpret parental control and that this may have implications for how control affects youths' adjustment. In this study, we propose that youths' feelings about being over-controlled by parents and feeling connected to parents are intermediary processes linking parental control and youths' adjustment. We used three years of longitudinal data sampled from 1,022 Swedish youths in 7th, 8th, and 9th grade (47.3% girls; 12–17 years old, *M* age = 14.28 years, SD = .98) who were mainly Swedish in ethnic origin. We tested models linking parental control (i.e., rules, restriction of freedom, and coldness-rejection) to adjustment (i.e., norm-breaking, depressive symptoms, and self-esteem) through youths feeling over-controlled by and connected to parents. The overall model incorporating youths' feelings showed that restrictions and coldness-rejection were both indirectly linked to increases in norm-breaking and depressive symptoms through increases in youths feeling over-controlled. Parental rules still independently predicted decreases in norm-breaking and in self-esteem, and coldness-rejection predicted increases in norm-breaking. In addition, some paths (e.g., feeling over-controlled to self-esteem) depended on the youths' age, whereas others depended on their gender. These results suggest that when youths' feelings are taken into account, all behavioral control is not the same, and the line between behavioral control and psychological control is blurred. We conclude that it is important to consider youths' feelings of being controlled and suggest that future research focus more on exploring this idea.

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Introduction

Parental control has been identified as a salient dimension of parenting associated with youths' social, emotional, and psychological development (Maccoby and Martin 1983). In interpreting the research on parental control, most researchers have focused on parents, defining and delineating the effects of control as a function of parents' goals and intentions (Barber et al. 1994). In this study, we examine the role that youths' perspectives and agency play in these processes, treating youths as interpretive agents whose feelings about their parents are the mechanism by which parental control affects youth adjustment.

Prior Research and Theoretical Background

Research on parental control and its effects on youth adjustment has generally taken a socialization approach (cf. Kerr and Stattin 2003), assuming that the direction of causal effects is from parent to child. As a result, parental control has been conceptualized largely from the perspective of parents, focusing on parents' goals and intentions. According to this *parent socialization* perspective, parental control can be divided into two types: psychological and behavioral control (Barber 1996). Psychological control refers to parenting behaviors that attempt to control youths by taking advantage of their emotional and psychological needs. It includes attempting to control youths by making them feel guilty or ashamed, also known as guilt induction. It also includes behaviors that communicate a withdrawal

or threat of withdrawal of parental love, including rejection and coldness. Although psychological control is intended to bring youths' behavior under parental control, it is also thought to produce negative outcomes, because it coerces youths into compliance, inhibiting youths' psychological autonomy and potentially harming the core self that is crucial for developing a healthy self image. Thus, psychological control is theoretically linked to more internalizing distress, including anxiety and depression (Barber 1996), as well as lower self-esteem (Barber and Harmon 2002).

In contrast to psychological control, behavioral control targets youths' behaviors. Behavioral control encompasses behaviors such as supervision, setting limits, and enforcing household rules and curfews. Theoretically, behavioral control produces well-adjusted youths by providing "a regulating structure" (Barber et al. 2005, p. 20), within which youths develop self-regulatory strategies. Thus, behavioral control is assumed to increase self-regulation and reduce externalizing problems. To summarize, behavioral control helps youths learn to self-regulate, leading to less externalizing, whereas psychological control impedes self-regulation and psychological autonomy, leading to more internalizing.

Although a great deal of research has examined the differential effects of psychological and behavioral control on youths' adjustment (see Barber and Harmon 2002; Barber et al. 2005), there is still some question as to where to draw the line demarcating behavioral control from psychological control. This has happened because both types of control have been linked to both internalizing (Barber 1996, Conger et al. 1997; Eccles et al. 1997; Herman et al. 1997) and externalizing (Barber 1996; Barber et al. 2005; Eccles et al. 1997; Galambos et al. 2003; Rogers et al. 2003). High levels of behavioral control have also been linked to negative effects. For example, behavioral control has been linked to increased rates of externalizing when peer deviance is low (Galambos et al. 2003). Still others have found mixed results (van der Zwaluw et al. 2008; Walker-Barnes and Mason 2001) or evidence that youths' adjustment affects parental control, rather than the other way around (Huh et al. 2006; Scholte 1999).

As a result, some scholars are questioning whether construing control on the basis of parental goals is sufficient for understanding its effects. One of the pieces that has been overlooked or minimized in theorizing about parental control is the perspective of youths. When parental control is seen through the eyes of youths, a different picture emerges (Darling et al. 2007; Pomerantz and Ruble 1998; Smetana et al. 2006). For example, recent studies have shown that youths are not always willing to cooperate with their parents' attempts to control them. They manage the information their parents are attempting to attain through monitoring. They act with purpose, to provide anything from no information at all to partial information, to full voluntary disclosure, depending on whether they feel parents have a legitimate need and whether they feel their own needs are being met (Marshall et al. 2005). As a result, parental knowledge is better predicted by youth disclosure than by parents' monitoring efforts (Kerr and Stattin 2000, 2003; Stattin and Kerr 2000).

These findings have important implications for the study of parental control. They suggest that youths have needs and interpretations of their parents' control behaviors and that examining these needs and perceptions can help clarify the effects of parental control. This is buoyed by recent empirical work. In several correlational studies, links have been found between behavioral control and psychological control that suggest they are not entirely distinct control dimensions. These studies show that at high levels, behavioral control is linked to youths' feeling over-controlled (Kerr and Stattin 2000) or having their privacy invaded (Hawk et al. 2008). When behavioral control is restrictive or aimed at behaviors that youths view as under their legitimate control (e.g., choice of friends, choice of clothes) it is associated with intrusiveness—the hallmark of psychological control (Smetana and Daddis 2002; Soenens et al. 2007). The authors have interpreted this as meaning that from the perspective of youths, behavioral control is psychologically controlling. This notion is confirmed by experimental and quasi-experimental studies using hypothetical vignettes of parental control. These studies showed that under some conditions, behavioral control is perceived negatively by youths. Pomerantz and Eaton (2000) showed that when parents over-monitored or provided unrequested help with children's homework, children saw it as indicating that they lacked competence. Studying adolescents, Kakihara and Tilton-Weaver (2009) found that youths viewed high levels of behavioral control as indicating *less* competence than high levels of psychological control. In addition, youths viewed high levels of both behavioral and psychological control as more intrusive than moderate levels. In other words, they viewed high levels of behavioral and psychological control as equally intrusive. This effect was more pronounced when the depicted control was over friendship choices than when it was over alcohol use. When considered in total, the evidence suggests that to understand the effects of parental control, be it behavioral or psychological, researchers need to account for youths' perceptions and feelings about control.

A good place to start when considering youths' needs and feelings about control is with *general control* perspectives from social psychology. These general control perspectives start with the assumption that individuals need to be autonomous in their actions (Brehm 1966; Deci and Ryan 1987; Ryan and Deci 2000). According to the general

control perspective, control should have negative effects when it impinges on youths' needs for psychological autonomy. Specifically, Self Determination Theory (Ryan and Deci 2000) asserts that when youths are deprived of psychological autonomy—the perception or feeling that they are a cause of their actions—this need is thwarted and their adjustment may be compromised. In a similar vein, reactance theory (Brehm 1966; Brehm and Brehm 1981) suggests that people react negatively to perceived threats to their autonomous decision-making. When individual choice is threatened, people have strong, negative emotional reactions (i.e., reactance), which in turn motivate them to regain control. If control cannot be regained, the strong negative emotions result in poor adjustment.

From this perspective, parental control could be viewed by youths as unduly restrictive or unfair. When youths view parents as exerting too much control, their feelings of autonomy would be compromised, and adjustment difficulties would likely ensue. We posit three ways in which feeling over-controlled would affect adjustment. First, youths who feel over-controlled could turn to misbehavior as an assertion of autonomy, increasing externalizing behaviors. When negative feelings about control cannot be alleviated, Brehm (1966) also suggested that depression would result. In essence, the controlled person feels helpless and simply gives up. Lastly, we argue that feeling over-controlled can detract from self-esteem because when psychological autonomy is compromised, it limits expression of self. In short, the general control model predicts that a high level of control, regardless of the type, could lead to negative adjustment if youths perceived it as unnecessarily restrictive. The strength of the negative effect depends on how much youths' autonomy needs are impeded by parental control rather than on the type of control.

Although research has been rather clear that parental control affects youth adjustment in one way or another, there has been less attention given to how control might affect the parent–child relationship, and through this, influence youth adjustment. Self Determination Theory posits that relatedness—feeling that one is connected and matters to others—is also a basic psychological nutriment, on par with the need for psychological autonomy (Deci and Ryan 1987). Although neither Self Determination Theory nor Reactance Theory deals directly with how control is related to feeling connected, we suggest several ways in which control might compromise adjustment. Research suggests that youths interpret control in terms of their relationships with their parents. Marshall (2001) found that youths whose parents were less accepting and more rejecting felt that they mattered less to their parents. Kakihara and Tilton-Weaver (2009) found that youths interpret high levels of control (regardless of type) as meaning that they mattered less to their parents than with moderate levels of either psychological or behavioral control. Other research has shown that youths who feel they matter to their parents, who feel more connected to them, are better psychologically adjusted, exhibiting less externalizing and internalizing, and greater feelings of self worth (Elliott 2009; Marshall 2004; Rosenberg and McCullough 1981). We would expect, then, more adjustment difficulties if parental control reduces feeling connected. There are several reasons to expect this. Feeling disconnected could create emotional distress, leaving youth vulnerable to depression and low self-regard (Cicchetti and Toth 1998). Feeling disconnected from parents could also create excessive dependency on peers (Fuligni and Eccles 1993) increasing youths' susceptibility to negative peer influences, and the likelihood of problem behaviors. Thus, youths could be more vulnerable to adjustment difficulties when they feel disconnected from their parents. To sum this up, we expected that increases in feeling controlled and decreases in feeling connected would, in turn, lead to poorer outcomes, including increased norm-breaking and depression, and reduced self-esteem. All three have been seen as outcomes of different types of parental control (Barber 1996; Barber and Harmon 2002). In short, we posit that youths' feelings about being controlled and being connected to their parents will act as intermediary processes linking control and adjustment.

The Current Study

Although there is growing support for considering youths' feelings about their parents, there has been no direct test of the idea that parental control affects youths' feelings about their parents and that this, in turn, affects their adjustment. Most of the studies examining these ideas have been cross-sectional (Hasebe et al. 2004; Kerr and Stattin 2000; Soenens et al. 2007) or have not controlled for initial levels of adjustment (Smetana and Daddis 2002). Although two studies provide causal support for parental control affecting youths' feelings (Kakihara and Tilton-Weaver 2009; Pomerantz and Eaton 2000), neither study directly assessed adjustment, and the use of hypothetical vignettes makes it difficult to infer whether youths view their own parents' behavior in the same way. Thus, a direct test of the process is needed.

In this study, we compare a model based on general control theories, incorporating youths' feelings about their parents as mediating mechanisms, to a direct effects model. As seen in Fig. 1, we expected that when parents are highly controlling, regardless of the type of control, youths would feel more controlled and less connected to their parents. We focused on three types of control, which are defined by others as behavioral or psychological control. We used

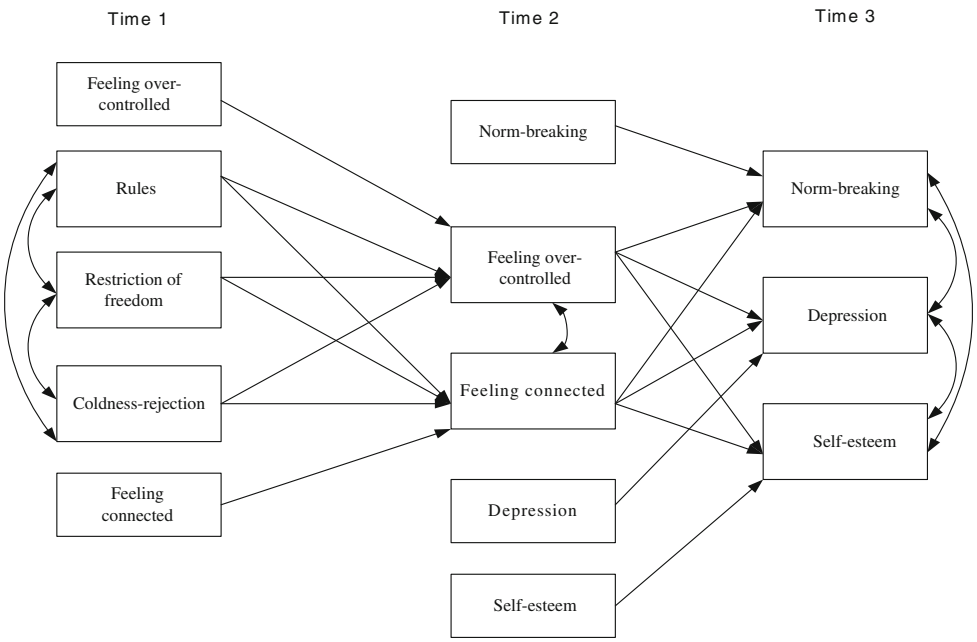

Fig. 1 The hypothesized model. Note that direct effects are not depicted

parental rules, a standard form of behavioral control and coldness-rejection, a typical form of psychological control. We also used restriction of freedom—where parents restrict youths' choices regarding friends and activities. Although considered a form a behavioral control because it regulates behavior, we argue that, because it restricts personal choice, it will be viewed by adolescents as psychologically controlling. Thus, it is a form of behavioral control that is likely to create reactance, because it controls behavior that is valued by youths (i.e., friends and activities) and seen by most youths as legitimately under their purview, not their parents (Smetana and Asquith 1994). We include it so that we can compare the types of control from both the socialization and general control perspectives. That is, if the defining elements are youths' feelings, similar effects should be found for restrictiveness and coldness-rejection, because youths should view restriction of choice as psychologically controlling. If the defining elements are parental goals, then rules and restrictiveness should operate similarly, but differently than coldness-rejection. For youths' feelings, we focus on both feeling overly controlled by parents and feeling connected, as these represent youths' needs for autonomy and connectedness. In our model, we include externalizing (i.e., norm-breaking), internalizing (i.e., depression), and self-esteem as possible outcomes. Inclusion of these three outcomes allows for an examination of unique effects and controls for co-occurring problems.

No model of parenting adolescents would be complete without considering moderating conditions. In this study, we examine two issues: grade and gender differences in the model. We examine grade differences in order to determine if there might be developmental differences. We expected that there might be for several reasons. First, although the basic needs for psychological autonomy and connectedness do not change (Deci and Ryan 1987), youths expect and are frequently granted more control over their own behavior as they grow older (Darling et al. 2008; Feldman and Quatman 1988). As youths grow older, they expect their parents to cede them more authority and relinquish control (Smetana and Asquith 1994). At the same time, the domains over which parents are seen as legitimate authorities become narrower. As a result, it could be expected that older youths would tend to view parental control as more intrusive than younger youths (Kakihara and Tilton-Weaver 2009), probably because the control is not seen as legitimate. These changes are all seen as normative realignments of control between parents and youths. Thus, older youths might be more prone to viewing parental control, particularly control over personal choice, as overcontrolling and be more vulnerable than younger youths to the negative effects of feeling over-controlled. In addition, because older youths are more likely to view behavioral control over personal choice as intrusive or psychologically controlling (Kakihara and Tilton-Weaver 2009), they may also be more likely than younger youths to feel less connected when parents are more restrictive.

We chose to examine gender as a moderator because of known gender differences in the use and subjective experience of parental control. Parents use less behavioral control with boys than with girls (Ruble and Martin 1998). In adolescence, boys not only expect more behavioral autonomy (Feldman and Rosenthal 1991), but also interpret behavioral control more similar to psychological control

than do girls (Kakihara and Tilton-Weaver 2009). We expect, then, for boys to be less accepting of parental control than girls, experiencing their parents as more controlling than girls. In addition, boys tend to externalize their emotional distress whereas girls tend to internalize (Galambos et al. 2004; Moffitt et al. 2001). Drawing on this evidence, we expected that boys would be more prone than girls to seeing parental control as overcontrolling. Further, feeling over-controlled might lead to more externalizing for boys, but more internalizing for girls. In addition, because of the communal gender role for girls (Ruble and Martin 1998), girls may be more distressed by relationship difficulties than boys (Leadbeater et al. 1995). If so, we could expect that feeling disconnected from their parents might leave girls more vulnerable than boys, resulting in a stronger relationship between feeling connected and adjustment difficulties for girls than for boys. However, the path from feeling connected and externalizing may be stronger for boys (Rosenberg and McCullough 1981). To summarize, the paths suggested by our process model (see Fig. 1) should be moderated by age and gender.

Method

Sample and Procedures

This study was a 5-year cohort sequential study, with annual data collections. Participants for the study were drawn from a Swedish community (26,000 inhabitants in 2001) that at the time of the study's onset had characteristics similar to other communities in the same country. Unemployment (6%) among adults was similar to other communities. The average income, however, was slightly lower (4%). All students within the community who were in 4th to 12th grades were invited to participate. Of those invited, only 1% had parents who did not allow their participation, resulting in 2,922 youths (51.1% boys, 48.9% girls, ranging roughly in age from 10 to 18 years) in the first wave of data. Prior to data collection, youths were assured that their responses were confidential and that no third parties (parents, teachers, etc.) would gain access to their materials. They were also assured that their participation was voluntary and that they could withdraw from the study at any time. Trained research assistants administered the questionnaires during school hours, ensuring that no teachers were present. Honorariums included a contribution to the class fund for primary grades (4th to 6th) and a drawing for movie tickets for the older youths (7th to 12th graders). All procedures and measures were reviewed and approved by the regional ethics committee prior to data collection.

For this study, we restricted the analytical sample to youths who were in 7th, 8th, and 9th grades at the third wave, also using the fourth and fifth waves for analyses (hereafter we refer to them as Time 1 to 3, respectively). We chose these waves because the measures relevant for the current study were available in these waves. Our analytical sample consisted of 1,022 youths at Time 1 (47.3% girls; age range 12–17 years, M age = 14.28, SD = .98) with nearly equal numbers of youth across grades and genders, $\chi^2 = 4.45$, $p > .05$. Almost all of the original sample (91%, $n = 930$, 9% attrition) also participated at Time 2, with an additional loss to attrition at Time 3 (81.5% of the original sample remained, $n = 758$).

Most of the sample was Swedish, with 7.2% born outside Sweden. Most (62.0%) lived with both biological parents, with 28.6% living under shared custody of divorced parents, 21.6% living with one single parent, and 14.4% living with one biological parent and a step-parent.

Attrition Analyses

With an attrition rate of approximately 19% over 2 years, we used a series of analyses of variance and logistic regressions to assess whether those who remained in the study differed from those left after the first wave. The participants who dropped out were more likely to be born outside Sweden (OR = .46) and to live with non-biological parents (OR = .39). Dropouts were also more likely to be older (OR = 2.16), to report that their parents had fewer rules ($t = 3.40$, $p < .001$), and to feel less connected to parents ($t = 3.22$, $p < .01$).

Measures

Parental Control: Rules

At Time 1, parental rules (labeled "parental control" in Kerr and Stattin 2000) was measured with 5 items assessing the extent to which parents (collectively) set rules regarding youths' free time behaviors and time with friends. The items were: "Do you need to have your parents' permission to stay out late on a *weekday* evening? Do you need to ask your parents before you can decide with your friends what you will do on a Saturday evening? If you have been out very late one night, do your parents require that you explain what you did and whom you were with? Do you have to tell you parents where you are at night, who you are with, and what you do together? Before you go out on a *Saturday* night, do you have to tell your parents where you are going and with whom?" Youths' responses were recorded using a 5-point scale (1 = no, never; 5 = yes, always) with higher values indicating more rules. The scale had an internal consistency of .80 ($M = 3.20$; SD = .89, actual scores ranged from 1 to 5).

Parental Control: Restriction of Freedom

Restrictions were assessed with 3 items for each parent, tapping parents' provision or restriction of choice for youths' free time. The items were created for the cross-sequential project: "My mother [father] gives me as much freedom and responsibility as I want." "My mother [father] lets me decide what time I should be home at night." and "My mother [father] lets me decide freely about my free time (friends and activities)." Youths responded using a 3-point scale (1 = never; 3 = most often). All items were reverse coded so that higher values indicate more restriction of freedom. Because the scales for mothers and fathers were highly correlated, $r(864) = .64$, $p < .001$, reports were combined when youths reported on both parents. If youths reported on only one parent, that information was used. Internal consistency for this scale was .79. Composite scores ranged from 1 to 3 ($M = 1.67$, SD = .45).

Parental Control: Coldness-Rejection

This was measured with 4 items for each parent (Tilton-Weaver et al. 2009). Youths were asked in a common stem: "How does your mother (father) react if you do something he (she) really does not like?" They then responded to the following items: "He (she) doesn't talk to you until after a long while." "He (she) is silent and cold toward you." "Makes you feel guilty for a long time." and "He (she) avoids you." using a 3-point format (1 = never; 3 = most often). Again, the two scales were strongly correlated, $r(862) = .70$, $p < .001$, so reports were combined if they were available for both parents. For this scale, internal consistency was .87 (composite $M = 1.34$; SD = .42, scores ranged from 1 to 3).

To validate the structure of three control dimensions, we conducted factor analyses using principal axis factoring methods with oblique rotation. We conducted separate analyses for mothers and fathers, in case the structures differed. The results showed that the items captured the three intended dimensions. Specifically, three factors were extracted for both mothers and fathers with similar patterns of loadings. All items loaded onto their respective dimensions, with no cross-loadings in excess of .20. Loadings were all above .55. The *rules* factor explained 24% of the variance for mothers and 20% for fathers; the *restriction of freedom* factor explained 21% of the variance for mothers and 18% for fathers; and the *coldness-rejection* factor explained 17% of the variance for mothers and 13% for fathers. A factor analysis of all of the items together showed the same three factor structure, with all items for mothers and fathers loading onto the same factors. The variance accounted for by the three factors was 47.67%, and the lowest factor loading was .56. Thus, we considered it acceptable to combine reports on mothers and fathers.[1]

Youths' Feeling Over-Controlled

Feeling over-controlled by parents was the mean of five items (Kerr and Stattin 2000). Each item (e.g., "Do you feel that your parents demand to know everything?") was rated on a 5-point scale (1 = yes, always; 5 = no, never). Internal consistencies for the measures were .80 for Time 1 and .82 for Time 2. Scores ranged from 1 to 5 at both time points (Time 1 $M = 2.53$, SD = .80; Time 2 $M = 2.36$, SD = .79).

Youths' Feeling Connected to Parents

This was assessed with 5 items from two scales originally used to assess seeing parents as a secure base and sources of emotional support (Tilton-Weaver et al. 2009). A sample item is "I know that my mother/father is there for me when I need her/him" and "My mother/father does small things that make you feel special (i.e., wink and smile)." Three items were rated on a 7-point scale (1 = disagree strongly; to 7 = agree strongly) and two items were rated on a 3-point scale (1 = never; 3 = most often). All the items were standardized before averaging, with higher values indicating more connectedness to mothers or fathers. Because the subscales for mothers and fathers were highly correlated (r (917) = .60 for T1, r (804) = .54 for T2), the scales were averaged when ratings for both parents were available. Internal consistencies for the resulting measures were .87 for T1 and .86 for T2. Standardized scores ranged from −2.27 to 1.07 at T1 ($M = .006$, SD = .67) and from −2.22 to 1.01 at T2 ($M = .006$, SD = .66). We examined the scores before standardizing and found no evidence of range restriction.

Youths' Normbreaking (T2 and T3)

Norm-breaking behaviors were assessed with 18 items drawn from three scales. The first was a self-report norm-breaking scale made up of 6 items, dealing with shoplifting

[1] To ensure that we were not overlooking important differences between parents, we estimated separate models for mothers and fathers. There were only slight differences between the model, with only one path that was significant for fathers but not mothers. For fathers only, more connectedness was related to increases in self-esteem, Est. = .08, $p < .05$. We also examined family structure and found no significant differences between biological, 2-parent families, parent-stepparent families, and single-parent families.

and other forms of theft, as well as minor vandalism (e.g., "Have you taken things from a store, stand or shop without paying during the last year?") Possible responses included "No, it has not happened" (1), "1 time" (2), "2 to 3 times" (3), "4 to 10 times" (4), and "More than 10 times, in the last year" (5). The norm-breaking scale is part of an overall assessment of delinquency, which has been validated in a longitudinal study (Magnusson et al. 1975). The other two scales were created for the project which specifically ask whether the person participated in norm-breaking activities with others: with their free time peer groups (6 items) and with their best friend (6 items). Before answering the norm-breaking questions, participants were first asked to nominate groups of their free time peers and their best friend. Norm-breaking with these peers was rated on a 3-point scale (1 = no, 2 = yes, once, 3 = yes, several times, in the last month). All items were standardized before averaging, with higher values indicating more norm-breaking. Internal consistencies for these measures were .90 for both T2 and T3. Norm-breaking items ranged from 1 to 4.83 at Time 2 ($M = 1.31$, SD = .54) and from 1 to 5 at Time 3 ($M = 1.32$, SD = .59) for the 5-point scale, and from 1 to 3 at both time points for the 3-point scales (with peers, $M = 1.35$, SD = .42 at Time 2, $M = 1.43$, SD = .49 at Time 3; with best friend, $M = 1.30$, SD = .38 at Time 2, and $M = 1.37$, SD = .46 at Time 3).

Youths' Depressive Symptoms

These were assessed with 20 items from the Center for Epidemiological Studies-Depression scale (CES-D; Radloff 1977). In this scale, individuals are asked about the frequency of depressive symptoms (e.g., "I was bothered by things that don't usually bother me.") on a 3-point scale (1 = not at all; 3 = often). The averaged scores were calculated so that higher values indicated more symptoms of depression. Internal consistencies for the scale were .92 and .91, for T2 and T3, respectively. Scores ranged from 1 to 3.90 at Time 2 ($M = 1.81$, SD = .60) and from 1 to 3.60 at Time 3 ($M = 1.76$, SD = .55).

Youths' Self-Esteem

Self-esteem was assessed with Rosenberg's Self-Esteem scale (RSE; 1965, e.g., "I think that I have many good characteristics"). A total of 10 items were scored on a 4-point scale (1 = don't agree at all; 4 = agree totally). An average score was calculated, with higher values indicating higher self-esteem. Internal consistencies for the measure were .89 for both T2 and T3. Scores ranged from 1 to 4 at both time points ($M = 3.01$, SD = .64 for Time 2 and $M = 3.06$, SD = .62 for Time 3).

Results

Plan of Analysis

To examine our hypothesized model (see Fig. 1), where parental control affects youths' feelings and youths' feelings affect adjustment, we performed structural path analyses with observed variables using Mplus 5 (Muthén and Muthén 2007). To test the potential moderating effects of gender and age, we used multi-group analyses. For all model testing, we used full information maximum likelihood procedures (FIML) to deal with missing data. FIML has been evaluated as being the most efficient and least biased method, as well as holding less restrictive assumptions about the mechanism resulting in missingness of data than other methods of estimating missing data (Little and Rubin 1987; McCartney et al. 2006). Specifically, FIML procedures unlike ML estimation methods do not delete or impute any values for missing cells. Instead FIML estimates the missing values using all available information in the data to fit directly the a priori specified model. It is considered an appropriate method for estimation even when data are not missing at random or completely at random (Little and Rubin 2002). For the current study, the proportion of complete information (i.e., non-missing values) for any pair of variables ranged from 47.6 to 94.8% with an average of 70.2%.

To assess model fit we considered several criteria jointly: chi-square statistics, the Bentler comparative fit index (CFI; Bentler 1990), the root-mean-square error of approximation with its 90% confidence interval (RMSEA; Browne and Cudeck 1993), and the standardized root mean-square residual (SRMR, Hu and Bentler 1998). We followed the general guidelines for determining satisfactory model fit. For CFI, values greater than .90 are considered acceptable and values greater than or equal to .95 indicate a good fit (Hu and Bentler 1999). For RMSEA and SRMR, values less than .05 are considered a good fit, values less than or equal to .08 are acceptable, and those greater than or equal to .10 indicate a poor fit (Browne and Cudeck 1993; Hu and Bentler 1999).

We first tested the basic model, in which all paths of theoretical interest were estimated. This included structural paths indicated in Fig. 1 and stability paths, as well as all possible direct effects between parental control and the adjustment constructs. We also allowed all variables within one time point to covary. For example, Time 1 parental rules, restrictiveness, coldness-rejection, feeling over-controlled, and feeling connected were correlated with each other. After estimating the model, we obtained estimates of direct, total indirect, specific indirect, and total effects. To provide estimates of each path, we then removed predictive paths that did not significantly contribute to the fit of the overall model. For the multi-group analyses, the initial

conceptual model with all paths was first estimated for each group (i.e., for boys and girls, for 7th, 8th, and 9th graders). We obtained estimates of direct and indirect effects separately for each group and then removed predictive paths that were not significant for either group. In other words, predictive paths that were significant for one or more groups were retained. Equality constraints were then imposed, and models were compared using χ^2 difference tests.

Preliminary Analyses

To assess variability and collinearly issues, we examined skewness and kurtosis as well as intercorrelations among the study variables. All variables were within a normal range except for norm-breaking behaviors, which showed skewness of 2.08 and 2.02 at T2 and T3 and kurtosis of 5.33 and 4.64 at T2 and T3, respectively. Although these values are indicative of non-normality, according to Kline (2005) this is still considered within acceptable ranges. Thus, we did not perform any transformation for these norm-breaking variables. The bivariate correlations (see Table 1) are included for reference.

Relationships Between Parental Control, Youths' Feelings, and Youth Adjustment

In our model, we suggest that parental control affects youths' feelings and that youths' feelings affect their

Table 1 Correlations among study variables

Variable	1	2	3	4	5	6	7	8	9
1 Gender (boy = 0; girl = 1)	–								
2 Grade (7th = 1; 8th = 2; 9th = 3)	–	–							
3 T1 Rules	.12***	−.26***	–						
4 T1 Restriction of freedom	.07*	−.02	.19***	–					
5 T1 Coldness-rejection	−.13***	−.01	.01	.20***	–				
6 T1 Feeling over-controlled	−.05	−.05	.34***	.40***	.37***	–			
7 T1 Feeling connected	.07	−.04	.14***	−.46***	−.37***	−.27***	–		
8 T2 Norm-breaking	−.11**	.05	−.16***	.04	.23***	.16***	−.15***	–	
9 T2 Depression	.25***	.03	−.01	.22***	.22***	.24***	−.22***	.26***	–
10 T2 Self-esteem	−.16***	.05	.01	−.23***	−.26***	−.25***	.28***	−.13***	−.66***
11 T2 Feeling over-controlled	.01	−.14***	.22***	.29***	.27***	.57***	−.23***	.23***	.32***
12 T2 Feeling connected	.02	.09*	.05	−.29***	−.26***	−.24***	.61***	−.23***	−.31***
13 T3 Norm-breaking	−.25***	−.03	−.11*	.09*	.22***	.22***	−.07	.58***	.15***
14 T3 Depression	.24***	−.03	.04	.18***	.18***	.26***	−.18***	.14***	.60***
15 T3 Self-esteem	−.11**	.13***	−.09*	−.17***	−.20***	−.28***	.21***	−.06	−.49***

Variable	10	11	12	13	14
1 Gender (boy = 0; girl = 1)					
2 Grade (7th = 1; 8th = 2; 9th = 3)					
3 T1 Rules					
4 T1 Restriction of freedom					
5 T1 Coldness-rejection					
6 T1 Feeling over-controlled					
7 T1 Feeling connected					
8 T2 Norm-breaking					
9 T2 Depression					
10 T2 Self-esteem	–				
11 T2 Feeling over-controlled	−.34***	–			
12 T2 Feeling connected	.40***	−.39***	–		
13 T3 Norm-breaking	−.06	.21***	−.14***	–	
14 T3 Depression	−.48***	.31***	−.26***	.17***	–
15 T3 Self-esteem	.63***	−.30***	.31***	−.13**	−.62***

Note: *N*s range from 484 to 1,022. For gender and grade, values are Spearman-rank correlations

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

adjustment. We tested this model (see Fig. 1), based on theoretical arguments made earlier. The basic model, which tested whether parental control affects changes in youths' feelings and if changes in youths' feelings affect their adjustment, fit the data well, $\chi^2 = 36.800$ (14), $p < .01$; CFI = .988, RMSEA = .040 (.024–.056), SRMR = .018. We removed twelve non-significant structural paths: six direct paths (direct paths from rules to depression, from restrictions to all three outcomes, and from coldness-rejection to depression and self-esteem), three paths from predictors to mediators (i.e., from rules to feeling over-controlled and connected, and from restrictions to feeling connected) and three paths from mediators to outcomes (i.e., all paths from connectedness to the outcomes). This resulted in a final model that also fit the data well, $\chi^2(26) = 49.835$, $p < .01$; $\Delta\chi^2$ (12) = 13.035, $p > .10$; CFI = .988, RMSEA = .030 (.017–.043), SRMR = .024 (see Fig. 2). Youths' feelings were relatively stable, as was their adjustment (standardized coefficients ranged from .47 to .58, $p < .001$). Both restriction of freedom and coldness-rejection were related to feelings. Restrictions (Est. = .08, $p < .05$) and coldness-rejection (Est. = .09, $p < .01$) were related to increases in feeling over-controlled. In addition, youths who reported their parents were more cold and rejecting decreased in feeling connected to their parents (Est. = −.08, $p < .05$). In turn, youths who felt increasingly over-controlled increased in norm-breaking (Est. = .14, $p < .001$) and in depressive symptoms (Est. = .14, $p < .001$), and dropped in self-esteem (Est. = −.08, $p < .01$). In addition, three direct paths between control and adjustment remained. Youths of parents who had more rules decreased in norm-breaking (Est. = −.08, $p < .05$), but also dropped in self-esteem (Est. = −.08, $p < .05$). Youths whose parents were cold and rejecting also increased in norm-breaking (Est. = .08, $p < .05$).

Looking at the indirect paths that were estimated with all paths present, four significant indirect paths were indicated: parental restrictions and coldness-rejection increased norm-breaking and depressive symptoms through increases in feeling over-controlled. We found no significant indirect effects of parental rules, nor did we find significant indirect effects operating through feeling connected (Table 2).

Does Youths' Age Moderate the Process?

Turning to testing for moderating effects of age (as indexed by grade), we started with the conceptual model, fitting estimates for 7th, 8th, and 9th graders. The model fit the data well $\chi^2(42) = 91.878$, $p < .001$; CFI = .975, RMSEA = .059 (.043–.076), SRMR = .025. We removed eight structural paths that were non-significant for all groups (i.e., the paths from rules and restrictions to feeling connected, the paths from feeling connected to all three outcomes, as well as direct paths from rules and rejection to depressive symptoms and coldness-rejection to self esteem). The removal of these paths did not significantly affect the model fit, $\chi^2(66) = 109.455$, $p < .001$; $\Delta\chi^2$

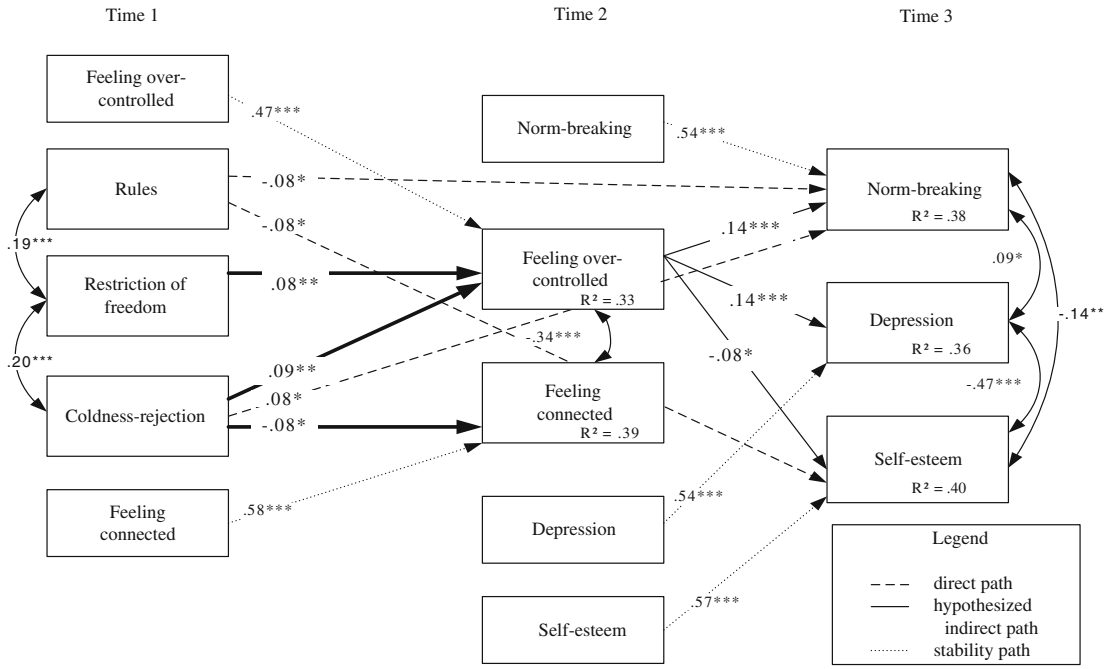

Fig. 2 The results of model testing. Only significant paths were shown, with direct effects depicted with dashed lines. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 2 Standardized total indirect effects, specific indirect effects, and total effects

Predictor and outcome	Direct effects	Total indirect effects	Specific indirect effects		Total effects
			Δ Feeling over-controlled	Δ Feeling connected	
Parental rules					
Norm-breaking	−.094*	.007	.008	−.001	−.087*
Depression	.004	.006	.006	.001	.010
Self-esteem	−.085**	−.005	−.004	−.001	−.090**
Restrictions					
Norm-breaking	.039	.012*	.013*	−.001	.051
Depression	.036	.011*	.010*	.001	.046
Self-esteem	.006	−.008	−.006	−.002	−.002
Coldness-rejection					
Norm-breaking	.089*	.010	.013*	−.003	.099*
Depression	.030	.013*	.010*	.003	.042
Self-esteem	−.025	−.011*	−.006	−.005	−.037

Note: The change symbol, Δ, denotes that the prior levels of the same construct were controlled

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

(24) = 11.996, $p > .10$; CFI = .979, RMSEA = .044 (.029–.058), SRMR = .029. Equality tests of all the structural and stability paths for the three groups showed that four paths differed significantly between the groups. The path from coldness-rejection to change in feeling over-controlled was not significant for 7th graders (Est. = −.04, $p > .10$). For both 8th (Est. = .16, $p < .01$) and 9th (Est. = .15, $p < .05$) graders, however, coldness-rejection from parents was predictive of increases in feeling over-controlled. In addition, there was no significant relationship between change in feeling over-controlled and subsequent change in self-esteem for 7th (Est. = −.06, $p > .10$) or 8th graders (Est. = −.01, $p > .10$). For 9th graders, youths who felt increasingly over-controlled subsequently experienced drops in self-esteem (Est. = −.23, $p < .001$). Thus, the indirect path from parental coldness and rejection to drops in self-esteem through feeling over-controlled is supported only for 9th graders. Inspection of the estimates of indirect effects showed that this was a marginal indirect effect (Est. = −.041, $p < .10$). However, two indirect effects emerged for 9th graders only: restrictions indirectly increased depressive symptoms (Est. = .041, $p < .05$) and decreased youths' self-esteem (Est. = −.047, $p < .05$) through youths' feeling more over-controlled. These indirect effects are consistent with the hypothesis that older youths would be prone to reactance and more negatively affected by parental control than younger youths.

Two direct paths also differed. For 8th graders, more parental rules predicted drops in self-esteem (Est. = −.15, $p < .01$), whereas this was not a significant effect for either 7th (Est. = −.02, $p > .10$) or 9th (Est. = .06, $p > .10$) graders. One other difference was found: for 7th graders, more restrictions were marginally predictive of increases in self esteem (Est. = .10, $p < .10$), whereas for 8th graders (Est. = −.10, $p < .10$) more restrictions were marginally predictive of decreases in self-esteem, and were not significantly related for 9th graders (Est. = −.08, $p > .10$). In both cases, behavioral control was related to drops in self-esteem for 8th graders, a finding that is not consistent with the socialization model of parenting, but suggests a developmental process that might need to be explored.

Does Youths' Gender Moderate the Process?

We followed the same procedure to test the moderating effects of gender on the mediational model. The models fit the data well, $\chi^2(28) = 56.970$, $p < .001$; CFI = .985, RMSEA = .045 (.028–.062), SRMR = .020 Removal of eight paths that were not significant for either group (i.e., the paths from rules to feeling over-controlled and feeling connected, a path from restrictions to feeling connected, paths from feeling connected to norm-breaking and depressive symptoms, and three direct paths: rules to depressive symptoms, and restrictions to norm-breaking and self-esteem) did not significantly affect model fit, $\chi^2(44) = 68.966$, $p < .001$; $\Delta\chi^2$ (16) = 11.996, $p > .10$; CFI = .987, RMSEA = .033 (.017–.048), SRMR = .024. Equality tests of all the structural and stability paths showed that four paths differed for boys and girls. Two stability paths differed: self-esteem had a higher degree of rank order stability for girls (Est. = .64, $p < .001$) than for boys (Est. = .47, $p < .001$), and norm-breaking was more stable for boys (Est. = .54, $p < .001$) than for girls (Est. = .37, $p < .001$). Two direct paths differed: for boys, parents' cold and rejecting behaviors were linked to increases in norm-breaking (Est. = .13, $p < .05$) and drops

in self-esteem (Est. = −.10, $p < .05$), whereas there were no significant direct links for girls (Est. = −.04 and .03, $p > .10$, respectively). Examination of the direct and indirect effects suggest that these direct effects were significant for boys only. These results are more consistent with a socialization model of parenting. One indirect effect emerged, but for boys only: parents' restrictions negatively affected boys' norm-breaking through feeling over-controlled (Est. = .022, $p < .05$). This is consistent with our hypothesis that restrictions would activate reactance, particularly for boys.

Discussion

In this study, we tested a process model of parental control and youth adjustment, where we hypothesized that youths' feelings about their parents would play an intermediate role, comparing this idea with the direct effects suggested in socialization approaches to parenting. In addition, we tested whether these relationships were moderated by gender or by grade (i.e., moderated mediation). Looking first at direct effects, three emerged in the overall model. Consistent with Barber's (1996) ideas, youths whose parents had more rules decreased in norm-breaking over two years. However, they also decreased in self-esteem. This is an effect that is not consistent with Barber's idea. However, it is not without precedent in the empirical literature. Pomerantz and Eaton (2000) had results that suggest youths can hold dual representations of parental control. Specifically, they found that children felt parental control communicated that their parents cared, but also found them incompetent. It stands to reason, then, that these dual representations could also affect adjustment, and that a similar dual process may be at work in this study. Youths might comply with their parents, resulting in less norm-breaking, but while complying, they may also feel less competent. If so, harming their competency may hamper their self-esteem. We also found another direct effect: youths' whose parents were cold and rejecting increased in norm-breaking. Although this is also inconsistent with Barber's idea that psychological control would increased internalizing, rather than externalizing, an increase in externalizing has also been seen in research examining both types of control. Thus, the direct effects in this study are not wholly supportive of Barber's theoretical positions on parental control.

Turning to indirect effects, the results showed that youths' feelings partially accounted for the effects of control on adjustment. In particular, it became evident that parental restrictions and rejection can make some youth feel over-controlled and that this feeling seems to make them prone to more adjustment difficulties. Although the indirect effects of parental control on adjustment through feeling over-controlled were relatively weak, these emerged over two years, from model testing that was very conservative. Our models tested whether change (in feelings) predicted subsequent change (in adjustment), where rank-order stability results in less variability in change than in the same constructs at any given time. What is notable is that the process was similar for both restrictions and for coldness-rejection. This adds to the growing evidence that when parents act to behaviorally control youths' choices (in this case, restricting choice of leisure time friends and activities), the effects are similar to those of psychological control. This supports the idea that the line between behavioral control and psychological control is blurred when control limits choice, compromising youths' psychological autonomy.

The picture of parental control was modified somewhat by grade and gender. It appears that the negative effects of control operate primarily for older adolescents—8th and 9th graders. It was for 9th graders only that the indirect effects emerged: when their parents were restrictive or cold and rejecting, they increased in feeling over-controlled, and subsequently dropped in self-esteem. For them, restrictions were also related to increases in depression, through feeling over-controlled. This was consistent with our expectations. The unexpected negative direct effect of rules on self-esteem was also conditional on age. We found this effect only for 8th graders, whose self-esteem dropped when parents had more rules or were more restrictive. To summarize, the effects of parental control might differ developmentally. Others have made similar arguments. Eccles and her colleagues (Eccles et al. 1993), for example, argued that parenting must adjust to fit youths' developmental abilities. In terms of control, parents would need to gradually cede control to their children in order to support their developmental progress toward self-sufficiency. Failure to do so could result in disturbances in the parent–youth relationship and youths' adjustment. In contrast, parents providing opportunities for self-regulation and participation in decision-making has been associated with better self-worth and lower levels of depression for youths (Smetana et al. 2004). Our results add to the evidence suggesting that parents need to shift their control in response to youths' growing independence and desire for control. A good place for parents to start is in ceding control over personal issues.

Our results differed not only across grades, but across gender as well. It was for boys only that we found the meditational path from restrictions to norm-breaking through feeling increasingly over-controlled. This is consistent with our predictions. In addition, two direct paths were found: More coldness and rejection from parents was associated with increased norm-breaking and drops in

self-esteem. These results are consistent with other research showing that the effects of psychological control appear to be more detrimental for boys than for girls (Conger et al. 1997) and with research suggesting that boys hold more negative perceptions of psychological control than do girls (Kakihara and Tilton-Weaver 2009). However, these results are somewhat surprising, given theoretical and empirical accounts suggesting girls are more sensitive to relationship stressors than are boys (Wagner and Compas 1990) and to relational aggression (Crick 1995). Parents acting cold and rejecting can certainly be construed as both. It will be important to determine the mechanism underlying these and other differences.

It will also be important to continue exploring individual differences in youths' feelings and reactions to parental control. The burgeoning evidence showing that youths' interpretations of control are one way of understanding its limits begs the question: Who are the youths who feel more controlled, even when the actual control is the same? Variability in beliefs about parental authority may be one source of individual differences. Although we examined restrictions as a type of control that would be more likely to be viewed by youths as illegitimately regulated by parents, a stronger test of our idea would be to include youths' views of parental authority, rather than assuming them. In addition, a direction for future research would be to look at characteristics and conditions that lead to viewing parental control as more or less legitimate. Youths who are more physically mature and feel older may be less willing to accept parental authority and control. Youths with friends who have fewer restrictions may press their own parents for more control and fewer restrictions. Conditions such as these may be key to understanding when the lines between behavioral and psychological control start to blur.

We did not find any evidence that parental control affects adjustment through feeling connected. It may be that youths' feelings of being connected to their parents are more immutable than their feelings of being controlled. In our data, feeling connected was more stable than feeling over-controlled, leaving less variability in change that could be connected to parental control or adjustment. Alternately, youths' feelings of connectedness might not be affected as greatly by parental control as youths' feelings of being controlled. Autonomy needs may hold primacy over connectedness in terms of needs affected by parental control. It might be that other behaviors, such as provision of support or parental warmth, affect feeling connected to parents.

It is also possible that youth might feel controlled, but still feel connected to their parents. This is supported by a moderate, but not overly strong, relationship in our results between feeling over-controlled and feeling connected (Est. $= -.34$, $p < .001$). As we have stated, youths may hold multiple representation of their parents' behavior, seeing both positive and negative aspects. The negative aspects could also include feeling incompetent, which would also undermine adjustment. It may be important, then, to take a pattern-centered approach, looking at the interplay between autonomy and connectedness needs as well as competency needs. Comparing processes across different patterns could tell us more about the conditions moderating the effects of parental control. No doubt, this study is only a foray into the complexities of youths' perceptions of their parents' behaviors.

Although a single step in that direction, this study confirms that taking youths' perceptions of parental control into account leads to a different picture of its effects. This has important implications for practitioners and policy makers. To the extent that parental control has negative effects when youths' needs are impeded, it is important to increase parents' awareness and sensitivity to youths' needs. Helping parents understand the conditions under which youths might question parental authority, when youths tend to view parental control in a negative light, and when parental control undermines autonomy, are important goals for both research and application. Although the need for autonomy and connectedness are thought to be basic needs important to everyone, youths may have more difficulty meeting their autonomy needs during adolescence, when they are renegotiating control with their parents. Intervention efforts may be well-served by helping parents choose control strategies that support youths' needs, rather than undermining them.

This speaks to the importance of considering these issues in terms of developmental processes. Locating parental control and youths' feelings about control in a developmental framework requires accounting for biological and psychological changes in the lives of youths, as they shift their places within a changing landscape of peer, family, and school contexts. We recognize the likelihood that youths' feelings about being over-controlled change as they begin to think of their parents and themselves in different ways, as they make comparisons of themselves to others, and as they move closer to adulthood. We have only scratched the surface of the developmental processes, treating parents' behaviors as relatively static, when, in fact, parents change their behaviors—some reduce control in an effort to make accommodations to their youths' gains in self-regulation, others back off of control when faced with defiant youths. Still others fail to accommodate, attempting to hold a line of authority and control that no longer makes sense to their youths. Future research will have to account for not only the developmental course of youths' feelings and reactions, but those of parents as well.

Our study has some limitations that bear mentioning. One limitation is that we used reports only from youths,

increasing the probability of common method variance. Although having youths report on their own feelings was wholly appropriate, the use of parents' reports might yield a more complete picture. As our data were part of a larger study, some design aspects limited the data available: we used a lag over two years and were only able to examine a cross-section from 7th to 9th grade. We also did not have sufficient ethnic variation in our sample to explicitly focus on culture as a contextual variant in these processes. Cultural contexts likely affect not only the way in which parents choose to control their youths, but how youths feel about their parents and respond to their control. In many Asian countries, for example, there is more emphasis on self-discipline and obeying and respecting parents (Chao 2001). As a result, many Asian adolescents might view parental control as legitimate when their European and North American counterparts might not. Asian youths are more likely to view even high levels of parental control as expressions of love and caring (Chao and Tseng 2002; Yau and Smetana 1996). Korean youths, for example, equate intrusive control with more parental warmth and less neglect (Rohner and Pettengill 1985), whereas European-American youths tend to view such behavior as repressive or hostile. Moreover, Asian youths have reported feeling less angry about their parents' restrictive and psychologically controlling behavior than have European-American youths (Chao and Aque 2009), suggesting that the processes we studied would likely be different. Understanding how youths view parental control in different cultural contexts, then, is an important part of understanding how control affects adjustment.

These limitations, though, are balanced by several important strengths. Our data came from a large, community-based sample, examining the developmental span between ages 12 and 17. We tested a model that included both youths' feelings and adjustment, providing a test of the ideas lying behind the studies we reviewed (Kakihara and Tilton-Weaver 2009; Pomerantz and Eaton 2000). We included multiple types of control behaviors and outcomes in order to assess the unique contribution of each. Our model was tested using longitudinal data, carefully controlling earlier levels of behavior. These are advances over prior research using cross-sectional data to test ideas about causal processes (e.g., Hasebe et al. 2004; Soenens et al. 2007) or using longitudinal data without assessing change (Smetana and Daddis 2002). As is the case with all longitudinal research, other interpretations are possible. There could be "third variable" or other processes operating that need to be considered. The time lags between constructs should also be varied, in case this changes the way these processes operate.

Our ideas, then, await reconfirmation with other studies. However, when our study is considered together with the results of other studies including youths' perceptions of parental control, a stronger case can be made for continuing to examine youths' interpretations and reactions to their parents' behavior. In our model, we were able to show that parental restrictions, previously conceptualized as behavioral control, acts much like psychological control. Both parental restrictions and coldness-rejection were related to increases in youths feeling over-controlled, and in turn, to poorer adjustment. These paths emerged because we incorporated youths' feelings about parents into our model. We assert that theorizing about parenting in general, and parental control in particular, can be improved by considering how youths' view and respond to their parents' behaviors. Accounting for how youths perceive their parents' behaviors, how this affects their acceptance of parental authority, and shapes their own and their parents' behavior promises to enrich our understanding of parenting and youth development.

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