

Undermining Adolescent Autonomy With Parents and Peers: The Enduring Implications of Psychologically Controlling Parenting

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This study used a longitudinal, multimethod design to examine whether teens' perceptions of maternal psychological control predicted lower levels of adolescent autonomy displayed with their mothers and peers over time. Significant predictions from teens' perceptions of maternal psychological control to teens' displays of autonomy in maternal and peer relationships were found at age 16 after accounting for adolescent displays of autonomy with mothers and peers at age 13, indicating relative changes in teens' autonomy displayed with their mother and a close peer over time. Results suggest that the ability to assert one's autonomy in mid-adolescence may be influenced by maternal behavior early in adolescence, highlighting the importance of parents minimizing psychological control to facilitate autonomy development for teens.

Broadly conceptualized as the capacity for independent thought, emotion, and behavior (Allen, Hauser, Bell, & O'Connor, 1994; Hodgins, Koestner, & Duncan, 1996), the establishment of autonomy has long been viewed as a key developmental milestone of adolescence. Originally rooted in psychoanalytically oriented theories emphasizing detachment (e.g., Freud, 1958) and individuation (Blos, 1979), modern autonomy theorists maintain that the push for autonomy during adolescence and the accompanying changes in the ways adolescents think about themselves in relation to their parents are healthy and normative (McElhaney, Allen, Stephenson, & Hare, 2009). More recently, however, socialization researchers have examined two different conceptualizations of parental autonomy support. While many developmental psychologists have long viewed autonomy support as promotion of independence (PI; Silk, Morris, Kanaya, & Steinberg, 2003), self-determination theory (SDT) views autonomy support as promotion of volitional functioning (PVF), or encouragement of adolescents to behave based on self-endorsed interests rather than on the basis of external demands

or pressures (Deci & Ryan, 2000). Moreover, one investigation of these two conceptualizations' relative contributions to adolescent adjustment suggested that volitional functioning may be particularly important to facilitate, as PVF uniquely predicted adjustment while PI did not (Soenens, et al., 2007). Thus, we will focus on the PVF conceptualization of autonomy granting herein.

Unfortunately, not all parents encourage their adolescents to function of their own volition, and some may go so far as *discouraging* it. For example, some researchers have conceptualized parents' use of psychological control—socialization pressure that is nonresponsive to the child's emotional and psychological needs, stifles independent expression and autonomy, includes manipulative and intrusive behaviors, and discourages interaction with others—as the *opposite* of autonomy granting (Barber, 1996; Steinberg, 1990). These active attempts to stifle autonomy differ from parents' low autonomy granting, which fosters children's dependency on parents by virtue of excluding youth from outside experiences (Silk et al., 2003). Although the assumption that psychological control and autonomy granting are opposite ends of a spectrum has come into question (Barber, 2002; Silk et al., 2003), there is evidence to suggest that the two are inversely associated. For example, one recent

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cross-sectional, self-report survey of Belgian college students found that students who perceived their parents as low in psychological control tended to perceive them as high in PVF (Soenens, Vansteenkiste, & Sierens, 2009). Further, despite analyses indicating that combining PVF and psychological control into a single dimension yielded similar results, the authors also concluded that it is worthwhile to study the specific effects of PVF and psychological control separately, as the two were not perfectly negatively correlated. As such, we will examine both adolescents' perceptions of maternal psychological control *and* coders' observations of mothers' autonomy promoting and undermining behaviors in this study.

While the relationship between psychological control and parental *autonomy granting* has been thoroughly examined, the impact of parental psychological control on *adolescents' autonomous behavior* over time remains understudied. Parents low in psychological control may be more likely to appear to encourage their adolescents to think, feel, and behave autonomously (Soenens et al., 2009), but we do not know whether those adolescents actually do so. This is an important distinction, as observational research has linked *adolescents'* displays of autonomy during family disagreements—and not their *parents'* displays of autonomy granting—with higher levels of adolescent ego development and self-esteem and lower levels of hostility and depression (Allen et al., 1994; Grotevant & Cooper, 1985; Hauser, 1984). Although research has focused on the degree to which psychologically controlling parents fail to grant autonomy in other ways, it also seems possible that the adolescent experiencing such control will learn that disagreeing with parents may be a somewhat futile exercise, in which efforts at self-assertion and volitional functioning are met with pressure and guilt induction that render the assertion pointless and painful. Thus, adolescents who perceive extensive psychological control from their parents seem likely to internalize a view of themselves in relationships in which they are in a passive, nonautonomous role. Over time, one might expect adolescents in such families to refrain from voicing their own opinions and asserting their own self-interest when facing parent-child disagreements; though, this has not yet been examined empirically.

Given growing evidence that patterns of relating that are learned within the family are often generalized to relationships outside the family (Collins & Repinski, 1994; Sroufe, Egeland, & Carlson,

1999), we might also then expect adolescents who perceive high levels of maternal psychological control to approach peer relations with the same expectation of futility in exerting autonomy. This is particularly worrisome given that autonomy in the peer context may be conceptualized more broadly as resistance to peer pressure (Berndt, 1979). Indeed, a recent cross-sectional, self-report survey of Chinese adolescents found that parenting perceived as psychologically controlling was linked to adolescents' greater susceptibility to peer pressure (Chan & Chan, 2011). Adolescents who lack the capacity to resist peer pressure are more likely to engage in substance use and alcohol drinking (Abbey, Jacques, Hayman, & Soback, 2006) as well as exhibit more depressive symptoms (Allen, Porter, & McFarland, 2006), further suggesting the importance of adolescents' ability to voice their own opinions and assert their own self-interest with peers. Despite this, however, no studies to date have investigated whether such behavior with peers is actually linked to perceptions of psychological control in the parent-adolescent relationship over time.

Finally, this study seeks to empirically distinguish between psychologically controlling parenting's association with adolescent autonomy in interactions with *parents* and its relation to adolescent autonomy with *peers*. Some have conceptualized autonomy as a generalizable psychological or dispositional attribute that an individual would possess regardless of the situation (Loevinger, 1976). From this perspective, one might expect that psychological control may be similarly related to autonomy in both parent and peer contexts simply because both represent the same construct: the cross-situational ability to assert one's autonomy. If this were true, psychological control would predict autonomy with parents, but once autonomy with parents was accounted for, there would be no independent link between psychological control and autonomy with peers. However, researchers have argued that autonomy is not a unidimensional trait; in contrast, some evidence suggests that it varies across situations (Steinberg & Silverberg, 1986). From this perspective, it is possible that psychological control may predict change in *both* autonomy with parents and autonomy with peers, even after accounting for the other. Such findings would suggest a direct link between psychological control and autonomy with peers, unmediated by autonomy with parents. Thus, the present study aims to address this issue by simultaneously predicting adolescents' autonomy in both contexts

from adolescents' perceptions of maternal psychological control.

In this study, autonomy was defined with respect to a common paradigmatic challenge for adolescents: negotiating a difference of opinions. Autonomy was defined broadly by behaviors differentiating a person from others, reflecting independence of thought, and demonstrating self-determination in the context of a disagreement task (Allen et al., 1994). In line with views of autonomy as volition (Deci & Ryan, 2000), assessment of autonomous behaviors in the present study examined the willingness and ability of adolescents to make choices and confidently provide reasons supporting their choices in the context of a disagreement with another person (i.e., their mother or their close peer). Such behaviors are in line with those theoretically expected to be reflected by autonomy-supported youth, who are encouraged to share their perspectives and provide a rationale for their positions when options are limited or restricted (Deci, Eghrari, Patrick, & Leone, 1994). It should be noted that this conceptualization of autonomy does not necessarily characterize entire family relationships or friendships, or even general family or friend discussions, but rather applies to the specific challenge of handling an explicit disagreement with a given partner, a key developmental task for youth.

Taken together, the extant literature examining the relationship between parents' use of psychological control and adolescents' autonomy relies heavily on cross-sectional, self-report data and has not yet simultaneously assessed links to adolescents' behavior with mothers and peers. Given that perceptions of maternal psychological control may render teens more passive in discussions with mothers or with peers, or more relationally inappropriate with peers, it is suspected that perceptions of maternal psychological control will be associated with fewer displays of adolescent autonomy with their mother and a close peer over time. Moreover, it is expected that these effects will be independent when tested together, as predicted by theory suggesting that displays of autonomy may vary across contexts (Steinberg & Silverberg, 1986). In this study, we specifically focus on *adolescents' perceptions* of maternal psychological control given evidence suggesting that youth largely learn about and construct their social world through their perceptions and interpretations of these perceptions (Grych, Seid, & Fincham, 1992; Steinberg, Lamborn, Dornbusch, & Darling, 1992). Finally, because there is mixed empirical evidence regarding

distinctions between maternal psychological control and maternal behaviors undermining autonomy and relatedness despite their conceptual overlap (Soenens et al., 2009), these maternal behavior variables were also included as covariates in all analyses. As such, the present study is designed to address the following specific hypotheses using multimethod data from a sociodemographically heterogeneous sample of 184 adolescents, their mothers, and their peers, followed across a 3-year span:

- Hypothesis 1: Higher levels of perceived maternal psychological control will predict a residualized decrease over time in adolescent displays of autonomy during disagreements with their mother.
- Hypothesis 2: Higher levels of perceived maternal psychological control will predict a residualized decrease over time in adolescent displays of autonomy with a close peer.
- Hypothesis 3: Adolescents' autonomy displayed with their mother and a close peer will display relative independence from one another over time and will each have a negative independent relationship with perceived maternal psychological control when considered in a simultaneous model.

METHOD

Participants

This report is drawn from a larger longitudinal investigation of adolescent social development in familial and peer contexts. Participants included 184 adolescents (86 males and 98 females), their mothers, and their closest friends across a 3-year period. Participants were of age 13.35 ($SD = 0.64$) at Wave 1 and age 16.34 ($SD = 0.87$) at Wave 2. The sample was racially/ethnically and socioeconomically diverse: Of the participants, 58% identified themselves as Caucasian, 29% as African American, and 13% as being from other or mixed ethnic groups. Adolescents' mothers reported a median family income in the \$40,000 to \$59,999 range, which is comparable to the national median family income of \$53,350 in 1997, the year of initial data collection (U.S. Bureau of the Census, 2010). Eighteen percent of the sample reported annual family income less than \$20,000, and 33% reported

annual family income greater than \$60,000. The sample appeared comparable to the overall population of the school in terms of racial/ethnic composition (42% non-White in sample vs. ~40% non-White in school) and comparable to the socioeconomic status of the larger community (mean household income = \$43,618 in sample vs. \$48,000 in the community at large).

At each wave, adolescents also nominated their closest, same-gendered friend to be included in the study. Participants were free to nominate a different peer at each time point. This method gives the clearest possible picture of the adolescent's recent close peer interactions and eliminates the problem of repeatedly assessing a peer who may no longer be close to the adolescent, perhaps due to circumstances that have nothing to do with the friendship (e.g., geographic moves). Approximately 16% of adolescents' close peers were the same person at age 13 and age 16. This is perhaps not surprising given the changing nature of adolescents' relationships from the middle school to high school years. Nevertheless, close friends reported that they had known adolescents for an average of 4.07 years ($SD = 2.92$) at Time 1 and 5.64 years ($SD = 3.64$) at Time 2.

At the second wave of data collection, approximately 3 years after the first, all of the original 184 adolescents participated in a revealed-differences task with their close peer; however, only 136 (74%) participated in the revealed-differences task with their mothers. Formal attrition analyses revealed that the 136 adolescents who participated in the revealed-differences task with their mothers at follow-up were from significantly higher-income families ($t = 2.42$, $p < .05$). These adolescents also perceived their mothers as less psychological controlling ($M = 14.98$, $SD = 3.36$) than adolescents who participated only at Time 1 ($M = 16.99$, $SD = 3.95$; $t = 3.51$, $p < .001$; Cohen's $d = .56$). However, these participants did not differ in terms of gender or in observed autonomy with mothers or close peer.

Procedure

As part of a larger longitudinal investigation, adolescents were recruited from the seventh and eighth grades of a single public middle school drawing from suburban and urban populations in the southeastern United States. One cohort of eighth graders was included, and two different cohorts of seventh graders were included in successive years. The school was part of a system in

which students had been together as an intact group since fifth grade. Students were recruited via an initial mailing to all parents of students in the school along with follow-up contact efforts at school lunches. Families of adolescents who indicated they were interested in the study were contacted by telephone. Of all students eligible for participation, 63% agreed to participate either as target participants or as peers providing collateral information. All participants provided informed assent before each interview session, and parents provided informed consent. Interviews took place in private offices within a university academic building. Parents, adolescents, and peers were all paid for their participation. In the initial introduction and throughout both sessions, confidentiality was assured to all family members and peers, and adolescents were told that their parents would not be informed of any of the answers they provided. Participants' data were protected by a confidentiality certificate issued by the U.S. Department of Health and Human Services, which protected information from subpoena by federal, state, and local courts. Transportation and childcare were provided if necessary.

Measures

Maternal psychological control. At ages 13 and 16, adolescents completed the Psychological Control versus Autonomy subscale of the Child Report of Parenting Behavior Inventory (CRPBI; Schaefer, 1965; Schludermann & Schludermann, 1970). Maternal psychological control was measured using 10 items that assess the perception of the degree to which the mother uses guilt and manipulation to control the adolescent's behavior, such as "If I have hurt my mother's feelings, she stops talking to me until I please her again." Each item was rated on a 3-point scale (from *not like* to *a lot like*); thus, overall scores could range from 10 (low psychological control) to 30 (high psychological control). Cronbach's alphas for this scale were 0.76 for adolescents' reports at age 13 and 0.80 for adolescents' reports at age 16.

Autonomy with mothers. Adolescents and their mothers participated in a revealed-differences task in which they discussed a family issue about which they disagreed. Typical topics of discussion included money (19%), grades (19%), household rules (17%), friends (14%), and brothers and sisters (10%); other possible areas included communication, plans for the future, alcohol and drugs, religion, and

dating. These interactions were videotaped and then transcribed.

Interactions were coded using the Autonomy and Relatedness Coding System (Allen et al., 2003). This coding system evaluates adolescent and partner speech for both the frequency and strength of specific types of statements exhibiting or inhibiting autonomy and relatedness. Thus, the system does not simply add up remarks falling into a specific category but rather considers the intensity of comments when assigning scale scores. All interactions were coded from videotapes and transcripts, permitting use of tone, rhythm, intensity of speech, facial expressions, and body posture in the coding system in addition to the content of speech. Each code uses a 0–4 scale with half-point intervals and concrete behavioral anchors of the meaning of each full point for a code. Scores for each of the coded behaviors within a category (i.e., autonomy) were summed to provide an overall score for that category. Two trained coders rated each interaction, and their codes were then averaged. Coders were blind to other data from the study, and different coders rated autonomy behaviors for adolescent–mother and adolescent–close peer interactions at each time point. Copies of this coding manual are available on request. Past research using this coding system has found it to be a reliable predictor of both family and adolescent functioning (Allen, Hauser, Bell, & O'Connor, 1994; Allen, Hauser, Eickholt, Bell, & O'Connor, 1994).

Adolescents' behavior was coded on 10 subscales. Two of these subscales (stating reasons and exhibiting confidence) were combined to yield the Displaying Autonomy scale. The Displaying Autonomy scale captures two aspects of the ways in which each member of a dyad handles the disagreement being discussed. First, it captures the extent to which each individual presents the reasoning underlying his or her position. The scale focuses on the individual's use and presentation of a reasoned argument, rather than on the quality of reasoning being displayed. Second, this scale captures the degree of confidence displayed by each member during the discussion. Confidence indicates an individual's resolve in adopting and maintaining a specific position or reason, as well as the degree to which the individual believes that the position or reason is correct or effective. Interrater reliability was calculated using intraclass correlation coefficients and was $r = .90$ at both ages 13 and 16, which is considered excellent (Cicchetti & Sparrow, 1981).

This study also utilized two other scales at teen age 13: Maternal Behavior Undermining Autonomy

and Maternal Behavior Undermining Relatedness. Behaviors that undermine autonomy include avoiding the disagreement by giving into the other's position immediately or distracting the other away from the disagreement (thus stifling the discussion), overpersonalizing the disagreement by invoking the opinion of an outside party, falsely characterizing the individual's behavior in an exaggerated way, invoking guilt, or using personal examples as reasons, or partners' attempts to pressure the other into selecting their choices by using an impatient tone of voice, signaling frustration or incredulity, making statements of ultimate position, or repeating themselves incessantly. Behaviors that inhibit relatedness include statements of hostility toward the teen that devalue the teen as a person, interrupting the teen or otherwise cutting off what they are saying, or ignoring what they are saying. Interrater reliability calculated using intraclass correlation coefficients was $r = .71$ for Maternal Behavior Undermining Autonomy and $r = .62$ for Maternal Behavior Undermining Relatedness at age 13.

Autonomy with peers. Each adolescent–close friend dyad participated in a revealed-differences task in which they were presented with a hypothetical dilemma that involved deciding which 7 of a possible 12 fictional patients with a rare disease should be selected for a limited amount of antidote, which was based on the sinking-ship dilemma (Pfieffer & Jones, 1974). After making their decisions separately, adolescents and their close friends were then brought together in a revealed-differences paradigm in which they could compare their answers (Strodtbeck, 1951). They were then asked to try to come up with a consensus list of seven patients. These interactions were videotaped and then transcribed.

The Autonomy and Relatedness Coding System for Peer Interactions was used to code these interactions for both adolescent and peer autonomy behaviors (Allen, Porter, & McFarland, 2001). This coding system is an adaptation of the Autonomy and Relatedness Coding System (described above; Allen et al., 2003). Consistent with that system, it also captures behaviors displaying autonomy by assessing individual's ability to state reasons and exhibit confidence when defending their position. Each interaction was coded as an average of the scores obtained by two trained raters blind to other data from the study. Different coders rated adolescent autonomy scores with different partners at each time point. Intraclass correlations for adolescents' displays of autonomy with a close peer were

$r = .86$ and $.83$ at ages 13 and 16, respectively. The intraclass correlation for close peers' displays of autonomy with adolescents was $r = .87$ at age 13.

Data Analytic Plan

Primary analyses were conducted via path analysis using full information maximum likelihood (FIML) estimation. FIML estimation, which takes into account information about variances and covariances from existing data in estimating parameters (Muthén & Muthén, 1998–2008), was used for all analyses to best address any potential biases due to attrition in longitudinal analyses. Because these procedures have been found to yield the least biased estimates when all available data are used for longitudinal analyses (vs. listwise deletion of missing data; Arbuckle, 1996; Enders, 2001; Raykov, 2005), the full sample of 184 adolescents was utilized for these analyses. This full sample thus provides the best possible variance/covariance estimates and was least likely to be biased by missing data. No data are estimated or imputed in this procedure, however; rather, it simply accounts and corrects for biases due to missing data. Complete data were available for 74%–99% of the sample (depending on the measure examined). Analyses were conducted using Mplus v. 6.0. Models were specified by simultaneously regressing outcome variables (i.e., adolescent autonomy with their mother, adolescent autonomy with a close peer, and adolescent-reported maternal psychological control, all at age 16) on primary predictor variables (adolescent autonomy with their mother, adolescent autonomy with a close peer, and adolescent-reported maternal psychological control, all at age 13) as well as on covariates of interest (i.e., maternal behavior undermining autonomy and maternal behavior undermining relatedness, both at age 13). Specific models are described for each hypothesis below.

RESULTS

Preliminary Analyses

All continuous study variables were approximately normally distributed. Data were screened for violations of multivariate assumptions including normality of residuals, homogeneous variances of residuals across predictors, linear relationships between variables, and absence of correlations between prediction errors. Data were also examined for outliers (defined as variables more than three standard deviations from the group mean), and no outliers were found. Means, standard deviations, and correlations of all primary constructs are presented in Table 1.

Preliminary analyses examined correlations between perceived maternal psychological control and maternal behavior undermining autonomy and undermining relatedness. These correlations revealed a significant association between maternal undermining autonomy at age 13 and perceived maternal psychological control at age 13 ($r = .17$, $p < .05$), but not at age 16; there were no significant correlations between maternal undermining relatedness and perceived maternal psychological control at age 13 or 16.

Preliminary analyses also investigated possible associations between close peers' demographics and close peers' autonomy scores with adolescents' displays of autonomy with their mother and close peer at ages 13 and 16. Correlations indicated that close peers' autonomy scores at age 13 were significantly correlated with adolescents' autonomy scores with mothers ($r = .21$, $p < .01$) and close peers ($r = .44$, $p < .001$) at age 13, but not at age 16. At age 16, correlations indicated that close peers' autonomy scores were significantly correlated with adolescents' autonomy scores with mothers ($r = .23$, $p < .01$) and close peers ($r = .23$, $p < .01$) at age 13 and with close peers ($r = .36$, $p < .001$) at

TABLE 1
Means, Standard Deviations, and Correlations Among Primary Predictor and Outcome Variables

Variable	<i>N</i>	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1. Maternal psychological control (13; A)	182	14.93	3.04	–					
2. Maternal psychological control (16; A)	165	14.70	3.55	.42***	–				
3. Adolescent autonomy with mothers (13; O)	165	2.16	0.79	–.12	–.02	–			
4. Adolescent autonomy with mothers (16; O)	136	2.31	0.80	–.26**	.05	.42***	–		
5. Adolescent autonomy with peers (13; O)	177	2.37	0.93	–.26***	–.18*	.30***	.20*	–	
6. Adolescent autonomy with peers (16; O)	184	2.16	1.19	–.32***	–.07	.02	.07	.20**	–

Note. Reporter and adolescent age are presented in parentheses; A = adolescent report; O = observed.

* $< .05$; ** $< .01$; *** $< .001$.

age 16. Neither close peers' gender nor how long they had known teens was related to adolescent autonomy with mothers or with peers at either time point.

Primary Analyses

Hypothesis 1: Maternal psychological control and adolescent autonomy with mothers. To address the hypothesis that perceived maternal psychological control in early adolescence is predictive of residualized decreases in adolescent autonomy with adolescents' mothers over time, cross-lagged path analyses were conducted predicting adolescent autonomy with mothers and perceived maternal psychological control at adolescent age 16 from adolescent autonomy with mothers and perceived maternal psychological control at adolescent age 13, after statistically controlling for maternal behavior undermining autonomy and undermining relatedness at age 13, $\chi^2(0) = 0.00$; comparative fit index (CFI) = 1.00; Tucker-Lewis index (TLI) = 1.00; root mean square error of approximation (RMSEA) = .00; paths specified as shown in Figure 1. Path analysis was selected to reduce the number-independent tests needed to evaluate hypotheses about specific theorized pathways as opposed to for evaluating overall model fit. The approach of predicting the future level of a variable while accounting for predictions from initial levels (e.g., stability) yields one marker of residualized change in that variable: increases or decreases in its final state relative to baseline (Cohen & Cohen, 1983). There were no significant effects of the covariates maternal undermining autonomy ($\beta = .00, ns$; $\beta = -.03, ns$) or undermining relatedness ($\beta = .06, ns$; $\beta = .04, ns$) on adolescent autonomy with their mother at age 16 or with perceived maternal psychological control at age 16,

respectively. Figure 1 shows that both perceived maternal psychological control and autonomy with their mother were stable across time ($\beta = .44, p < .001$ and $\beta = .38, p < .001$, respectively). With other predictor variables in the analysis constrained to 0, perceived maternal psychological control at age 13 predicted 19% ($R^2 = .19, p < .01$) of the variance in perceived maternal psychological control at age 16. Under these same constraints, adolescent autonomy with their mother at age 13 predicted 18% ($R^2 = .18, p < .01$) of the variance in adolescent autonomy with their mother at age 16.

Furthermore, psychological control at age 13 predicted significant residualized declines in autonomy with their mother 3 years later ($\beta = -.22, p < .01$). With other predictor variables in the analysis constrained to 0, perceived maternal psychological control predicted an additional 3% ($\Delta R^2 = .03, p < .01$) of the variance in adolescent autonomy with their mother at age 16 after controlling for adolescent autonomy with their other at age 13.

An additional analysis considered the possibility that the effects of perceived maternal psychological control on adolescent autonomy with their mother at age 16 might operate through adolescent autonomy with their mother at age 13. That is, analyses sought to determine whether concurrent negative effects of perceived maternal psychological control on adolescent autonomy with their mother at age 13 might be responsible for lower adolescent displays of autonomy with their mother at age 16. This analysis confirmed a direct effect of maternal psychological control on autonomy with their mother at age 16 ($\beta = -.22, p < .01$) and a nonsignificant indirect effect through adolescent autonomy at age 13 ($\beta = -.05, ns$).

Hypothesis 2: Maternal psychological control and adolescent autonomy with peers. To address

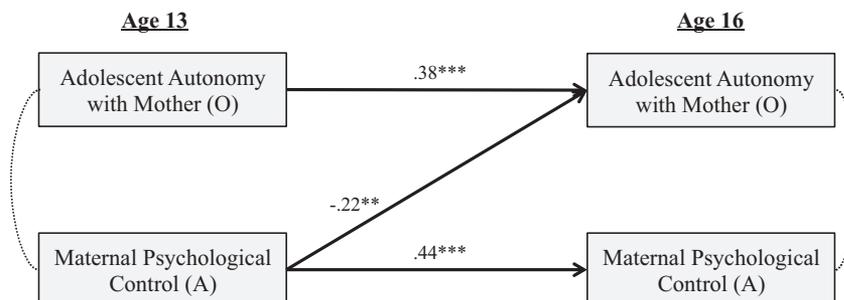


FIGURE 1 Cross-lagged path analyses predicting adolescent autonomy with mothers ($R^2 = .23^{***}$) and maternal psychological control ($R^2 = .18^{**}$) at age 16. Significant paths are in bold. Maternal behavior undermining autonomy and undermining relatedness are covaried in all analyses. $^{**}p < .01$; $^{***}p < .001$.

the hypothesis that perceived maternal psychological control in early adolescence is predictive of residualized decreases in adolescent autonomy with a close peer over time, cross-lagged path analyses were conducted predicting adolescent autonomy with a close peer and perceived maternal psychological control at adolescent age 16 from adolescent autonomy with a close peer and perceived maternal psychological control at adolescent age 13, after statistically controlling for maternal behavior undermining autonomy and undermining relatedness at age 13, $\chi^2(0) = 0.00$; CFI = 1.00; TLI = 1.00; RMSEA = .00; paths specified as shown in Figure 2. The covariate maternal undermining autonomy was negatively related to adolescent autonomy with a close peer at age 16 ($\beta = -.18, p < .05$; $\Delta R^2 = .04, ns$). There was no significant relationship between maternal undermining autonomy and perceived maternal psychological control ($\beta = -.04, ns$) at age 16. There were also no significant associations between perceived maternal undermining relatedness and adolescent autonomy with a close peer ($\beta = .13, ns$) or with perceived maternal psychological control ($\beta = .06, ns$) at age 16. Figure 2 shows that both perceived maternal psychological control ($\beta = .41, p < .001$) and autonomy with a close peer at age 13 were stable across time ($\beta = .31, p < .001$). These constructs predicted 18% ($R^2 = .18, p < .01$) and 17% ($R^2 = .17, p < .01$) of the variance in maternal psychological control and adolescent autonomy with a close peer, respectively, when other predictor variables were constrained to 0. Furthermore, psychological control at age 13 predicted significant residualized declines in autonomy with a close peer 3 years later ($\beta = -.21, p < .01$). With other predictor variables in the analysis constrained to 0, perceived maternal psychological control predicted an addi-

tional 2% ($\Delta R^2 = .02, p < .01$) of the variance in adolescent autonomy with a close peer at age 16 after controlling for adolescent autonomy with a close peer at age 13.

An additional analysis considered the possibility that the effects of perceived maternal psychological control on adolescent autonomy with a close peer at age 16 might operate through adolescent autonomy with a close peer at age 13. That is, analyses sought to determine whether concurrent negative effects of perceived maternal psychological control on adolescent autonomy with a close peer at age 13 might be responsible for lower adolescent displays of autonomy with a close peer at age 16. This analysis confirmed a direct effect of maternal psychological control on autonomy with a close peer at age 16 ($\beta = -.24, p = .001$) and a significant indirect effect through adolescent autonomy with a close peer at age 13 ($\beta = -.09, p < .01$).

Hypothesis 3: Independent predictions of adolescent autonomy with mothers and peers from maternal psychological control. Next, we examined whether the links between perceived maternal psychological control and adolescent autonomy with a close peer versus with mothers display relative independence from one another over time. Cross-lagged path analyses were conducted simultaneously predicting adolescent autonomy with their mother, adolescent autonomy with a close peer, and perceived maternal psychological control at adolescent age 16 from adolescent autonomy with their mother, adolescent autonomy with a close peer, and perceived maternal psychological control at adolescent age 13, after statistically controlling for maternal behavior undermining autonomy and undermining relatedness at age 13, $\chi^2(2) = 1.458$; CFI = 1.00; TLI = 1.06; RMSEA = .00; paths specified as shown in Figure 3. The covariate maternal

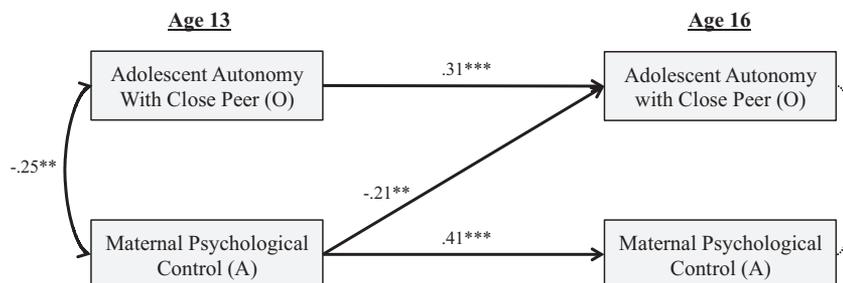


FIGURE 2 Cross-lagged path analyses predicting adolescent autonomy with peers ($R^2 = .23***$) and maternal psychological control ($R^2 = .19**$) at age 16. Significant paths are in bold. Maternal behavior undermining autonomy and undermining relatedness are covaried in all analyses.

** $p < .01$; *** $p < .001$.

undermining autonomy was negatively related to adolescent autonomy with a close peer at age 16 ($\beta = -.20, p < .05; \Delta R^2 = .04, ns$), but not with adolescent autonomy with their mother ($\beta = .01, ns$) at age 16. There was no significant relationship between maternal undermining autonomy and perceived maternal psychological control ($\beta = -.03, ns$) at age 16. There were also no significant relationships between maternal undermining relatedness and adolescent autonomy with a close peer ($\beta = .14, ns$) or with perceived maternal psychological control ($\beta = .05, ns$) at age 16. Figure 3 shows that adolescent perceived maternal psychological control ($\beta = .43, p < .001; R^2 = .19, p < .01$), autonomy with their mother ($\beta = .37, p < .001; R^2 = .17, p < .01$), and autonomy with a close peer ($\beta = .33, p < .001; R^2 = .17, p < .01$) were stable across time. Furthermore, perceived maternal psychological control at age 13 predicted significant residualized declines in both adolescent autonomy with their mother ($\beta = -.22, p < .01$) and autonomy with a close peer ($\beta = -.21, p < .01$) 3 years later. With other predictor variables in the analysis constrained to 0, perceived maternal psychological control predicted an additional 3% ($\Delta R^2 = .03, p < .05$) of the variance in adolescent autonomy with their mother at age 16 and an additional 4% ($\Delta R^2 = .04, p < .05$) of the variance in adolescent autonomy with a close peer at age 16 after controlling for these constructs at age 13. Although autonomy with their mother and autonomy with a close peer were positively associated at age 13 ($r = .30, p < .001$), they were not interrelated over time.

An additional analysis then considered the possibility that the effects of perceived maternal

psychological control on adolescent autonomy with their mother and a close peer at age 16 might operate through adolescent autonomy with their mother and with a close peer at age 13, respectively. That is, analyses sought to determine whether concurrent negative effects of perceived maternal psychological control on adolescent autonomy with their mother and a close peer at age 13 might be responsible for lower adolescent displays of autonomy with their mother and a close peer at age 16, respectively. This analysis confirmed direct negative effects of perceived maternal psychological control at age 13 on adolescent autonomy with their mother and with a close peer, respectively, at age 16 ($\beta = -.22, p < .05; \beta = -.24, p < .01$). There was a nonsignificant indirect effect of maternal psychological control at age 13 on adolescent autonomy with their mother at age 16 through adolescent autonomy with their mother at age 13. There was a significant indirect effect of maternal psychological control at age 13 on adolescent autonomy with a close peer at age 16 through adolescent autonomy with a close peer at age 13 ($\beta = -.09, p < .01$).

DISCUSSION

Parents' use of psychological control has been associated with a host of negative outcomes for adolescents, including low self-confidence, low self-esteem, and low self-reliance (Garber, Robinson, & Valentiner, 1997). There is even some evidence to suggest that psychologically controlling parenting may be concurrently linked to lower levels of adolescent autonomy with both parents

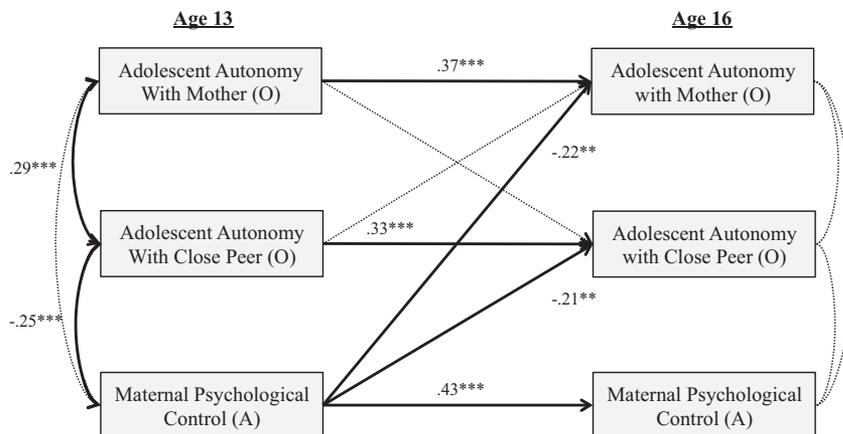


FIGURE 3 Cross-lagged path analyses predicting adolescent autonomy with mothers ($R^2 = .22^{**}$), adolescent autonomy with peers ($R^2 = .10^*$), and maternal psychological control ($R^2 = .36^{***}$) at age 16. Significant paths are in bold. Maternal behavior undermining autonomy and undermining relatedness are covaried in all analyses. $**p < .01; ***p < .001$.

(Soenens et al., 2009) and peers (Chan & Chan, 2011). However, these studies have relied on cross-sectional, self-report data. Furthermore, researchers have not yet investigated whether these predictions of autonomy in different relationship contexts are in fact independent, suggesting empirically distinct constructs, or whether parental psychological control is merely predictive of adolescents' autonomy regardless of context. The present study aimed to extend previous research by examining whether the apparent undermining effects of psychological control on adolescents' autonomy are lasting, as well as whether psychological control has an independent association with displays of autonomy in family versus peer contexts.

Consistent with our first hypothesis, adolescents showed residualized declines in exhibited autonomy (i.e., assertions of self-interest) with their mothers 3 years later, even after accounting for baseline adolescent autonomy with their mothers at age 13, maternal behavior undermining autonomy and undermining relatedness at age 13, *and* concurrent perceived maternal psychological control at age 16. One possible interpretation of this finding is that psychologically controlling parenting may in fact have *lasting* effects, undermining adolescents' ability to assert their autonomy within the family over time. More specifically, adolescents who are consistently subjected to maternal control attempts that involve manipulation, guilt induction, or passive aggression may learn over time that attempts to assert their self-interest may be somewhat futile and in turn learn to concede when facing disagreements with their mothers. This is particularly concerning, as previous research has linked the inability to assert one's autonomy during family disagreements with lower levels of adolescent ego development and self-esteem and higher levels of hostility and depression (Allen, Hauser, Bell, & O'Connor, 1994). While not directly assessing adolescents' displays of autonomy, Fuligni and Eccles (1993) also found that adolescents who perceive their parents as *not* allowing them to develop autonomy tend to report a greater orientation toward peers—and in turn, perhaps, potential for greater peer influence.

As expected, predictions of adolescents' displays of autonomy when discussing disagreements with a close peer showed a similar pattern. This study hypothesized that perceived maternal psychological control would also predict a residualized decline in adolescent autonomy displays with a close peer. Consistent with previous cross-sectional,

self-report-based research suggesting that adolescents who perceive their parents as psychologically controlling are more susceptible to peer pressure (Chan & Chan, 2011), analyses revealed that 13-year-olds whose mothers used high levels of psychological control exhibited significantly lower concurrent levels of autonomy in the peer context as well. Again, those adolescents also showed residualized declines in exhibited autonomy with a close peer 3 years later, even after accounting for baseline adolescent autonomy with a close peer at age 13, maternal behavior undermining autonomy and undermining relatedness at age 13, *and* concurrent perceived maternal psychological control at age 16. It is possible that the results of the present study reflect the lasting negative impact that psychologically controlling parenting has on adolescents' ability to exert their autonomy with their peers as well, undermining their ability to do so over time. It seems that adolescents who are subjected to extensive maternal manipulation, guilt induction, or passive aggression learn to take on a passive, nonautonomous role not only in the family but also in their peer relationships. These findings may help elucidate one potential mechanism behind recent findings suggesting that adolescents who exhibit problematic autonomy development in disagreements with their mothers in early adolescence are subsequently more likely to adopt levels of substance use consistent with their friends' use by mid-adolescence (Allen, Chango, Szewedo, Schad, & Marston, 2012).

The findings discussed thus far suggest that mothers' use of psychological control may have enduring negative implications not only for adolescents' ability to assert their autonomy in the family context, but in the peer context as well. Still, consistent with the perspective that autonomy is a generalizable psychological or dispositional attribute that an individual would possess regardless of the situation (e.g., Loevinger, 1976), it is also possible that mothers' psychological control is similarly related to autonomy in both family and peer contexts simply because both represent the same construct: the adolescents' cross-situational ability to assert their autonomy. However, the results of analyses from our third hypothesis simultaneously predicting adolescents' displays of autonomy with both mothers and a close peer suggest that this is not the case; in contrast, mothers' use of psychological control contributed *unique* predictions of adolescents' behavior in each relationship context both concurrently and over time. More specifically, thirteen-year-olds who perceived high levels of psy-

chological control exhibited significant residualized declines in exhibited autonomy with *both* their mother and a close peer three years later, even after accounting for baseline adolescent autonomy with both their mother and a close peer at age thirteen, observed maternal behavior undermining autonomy and undermining relatedness, and concurrent perceived maternal psychological control at age 16. Put more simply, these findings indicate a *direct* association between maternal psychological control and residualized declines in displays of autonomy with a close peer, *unmediated* by autonomy with parents. Furthermore, they support the idea that autonomy displayed with mothers is empirically distinct from autonomy displayed with a close peer, consistent with the view that autonomy is not a unidimensional trait at all, but rather one that varies across situations (Steinberg & Silverberg, 1986). Taken together, these results indicate that mothers' use of psychological control likely not only corrodes the mother-adolescent relationship over time, but may also hinder adolescents' ability to confidently disagree with peers over time as well.

Of course, the idea that autonomy is context-specific also implies that an adolescent may be able to assert his or her autonomy in one of these relational contexts even if struggling to do so in the other. Future research should examine the role that friendship qualities may play in this phenomenon. More specifically, it is possible that peer relationships that are low in psychological control may buffer the apparent negative effects of psychologically controlling parenting, allowing adolescents to confidently disagree in their peer relationships even if they cannot do so at home. Conversely, experiencing psychological control in both family *and* peer contexts may have a cumulative negative impact on an adolescents' autonomy. Further research is necessary to examine these possibilities.

Several limitations of this study also warrant mention. First, even longitudinal, cross-lagged analyses, although sufficient to disconfirm causal hypotheses, cannot be used to establish the presence of causal pathways. Specifically, predictions from maternal psychological control to future decreases in adolescents' displays of autonomy could have been driven by unmeasured third variables. For example, another variable that is often included in studies of parental control is parental support (Baumrind, 1991; Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Steinberg, Elmen, & Mounts, 1989; Steinberg, Mounts,

Lamborn, & Dornbusch, 1991). While more frequently paired with behavioral control than psychological control in the literature, it is possible that parents who are high in psychological control are also low in support, in part explaining the present findings. On the other hand, it is possible that parents who compensate for their use of psychological control with otherwise supportive behaviors may have adolescents who feel more comfortable asserting their autonomy. Thus, the potential moderating role of parental support warrants further investigation.

Furthermore, the analyses focused only on perceptions of maternal psychological control as a predictor of autonomy, rather than considering perceptions of both parents' behavior. Although the extant literature on the topic does indicate that fathers are less likely to use psychological control than mothers (Barber & Harmon, 2002), there is some evidence to suggest that fathers' use of psychological control can be predictive of problematic adolescent outcomes *when paired with* psychologically controlling mothering (Rogers, Buchanan, & Winchel, 2003). Further research is necessary to elucidate whether this cumulative negative effect of psychological control from both parents is lasting as well. It is also important to note limitations to the generalizability of the present findings. This study utilized a sample of adolescents from a single public middle school in the southeastern United States, and the results of this study may not be applicable to youth in other parts of the country or world. Moreover, the effects found in this study are of relatively small magnitude; However, confidence in these findings may be strengthened by the use of relevant control variables in analyses and the consistency of the results.

Finally, while we believe that our measure of autonomous behavior is conceptually related to volitional functioning, it is possible that adolescent behaviors coded as displaying autonomy in the Autonomy and Relatedness Coding System (Allen et al., 2003) may correlate with independence instead or as well. Further research is needed to empirically examine whether our measure correlates with existing measures of PVF and/or PI. We also note that our measure of autonomous behavior with mothers and close peers was not concurrently linked to maternal psychological control in three of the four pairings of these constructs. Although it is not clear why this might be the case, it is possible that, at least by age 16, adolescents may have gained exposure to other supportive adult (e.g., teachers, coaches) or peer relationships that help

mitigate negative effects of concurrently perceived maternal psychological control. Further research will be needed to clarify associations between concurrent and longitudinal predictions of maternal psychological control to adolescents' autonomous behavior.

Despite their limitations, these findings provide some evidence that maternal psychological control during early adolescence may have enduring implications for development, predicting decreases in adolescents' ability to assert their autonomy with both mothers and a close peer by mid-adolescence. Furthermore, simultaneous predictions of autonomy with both mothers and a close peer in the same model indicate that these links are in fact independent. This is a particularly important issue during this transitional period, which is often marked by an increase in autonomy from their parents to, in turn, become more dependent on their peers (Steinberg & Silverberg, 1986). Considered in the context of findings suggesting that the mid-adolescent years are important for developing the ability to resist peer pressure (Steinberg & Monahan, 2007), these findings have important theoretical implications for parents who aim to encourage their adolescents to exhibit confidence when defending their own positions when faced with peer pressure and emphasize the role of minimizing maladaptive parenting strategies, such as manipulation, guilt induction, or passive aggression, to successfully do so.

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