

Evaluative Pressure in Mothers: Effects of Situation, Maternal, and Child Characteristics on Autonomy Supportive Versus Controlling Behavior

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This study examined the effects of situational pressure and maternal characteristics (social contingent self-worth, controlling parenting attitudes) on mothers' autonomy support versus control in the social domain. Sixty 4th-grade children and their mothers worked on a laboratory task in preparation for meeting new children, with mothers in either an evaluation (mothers told their child would be evaluated by other children) or no-evaluation (no mention of evaluation) condition. Mothers in the evaluation condition spent more time giving answers to their children. Mothers with controlling parenting attitudes exhibited more controlling behavior. Further, mothers with high social contingent self-worth in the evaluation condition were most controlling. Results suggest the importance of interactions between situations and maternal characteristics in determining levels of mothers' autonomy support versus control and have implications for helping parents support children's autonomy.

Keywords: evaluative pressure in mothers, predictors of parenting, maternal autonomy support versus control

In recent years, researchers have searched for factors that affect the ways in which parents interact with their children. No longer seen as a result of static characteristics of parents, parenting is seen as a function of dynamic interactions between contextual or situational factors, cognitive and affective qualities in parents, and temperamental and behavioral features of the children themselves.

By far, the most work on predictors of parenting has focused on contextual factors such as stressful events and economic hardship. Economic hardship has been connected to harsh parenting in a low-income largely African American sample (McLoyd & Wilson, 1991), and stressful life events have been connected to both punitive and less involved patterns of interaction in middle-class European American samples (Conger, McCarty, Yang, Lahey, & Kroop, 1984; Grolnick & Slowiaczek, 1994; Grolnick, Weiss, McKenzie, & Wrightmen, 1996). In our theoretical work (Grolnick, 2003), we have been interested in the mechanisms explaining such relations. One explanation for the impact of these contextual characteristics on parenting is that they create pressure on parents. This pressure may take the form of time urgency where parents must take the least time-consuming path, which may involve solving problems for children. Such external forces may also decrease parents' tolerance for obstacles, increasing their tendencies to take over. Our theory also links these effects to

another form of pressure, that from within the parent. This internal pressure comes from parents' hinging their own self-worth on children's outcomes or performance. Such a mechanism has alternatively been conceptualized as ego-involvement or contingent self-worth.

In this study, we tested aspects of our theory by examining multiple pressures—situational pressures in the form of a lab condition that stresses evaluation of children, individual tendencies of mothers to hinge their self-worth on child outcomes, as well as that from the children's level of competence, which may create a sort of "pressure from below" (Grolnick, 2003)—in relation to mothers' tendencies to support versus control autonomy in their children.

Autonomy Supportive Versus Controlling Parenting

In this study, we took a self-determination theory viewpoint (Deci & Ryan, 1985) to conceptualize the parenting dimension of autonomy supportive to controlling. *Controlling parenting* refers to parent behavior involving pressure, solving problems for children, and taking a parental rather than a child perspective. These behaviors can be contrasted with the other end of the continuum, *autonomy supportive*, in which parents take children's perspectives, allow them to solve problems on their own, and encourage initiation. Within this theory, controlling behaviors undermine a sense of autonomy in children or the experience that their behavior is self-determined.

Most of the research that has been done on the effects of autonomy supportive versus controlling parents has been conducted with European American participants. In such populations, more autonomy supportive (less controlling) parenting has been associated with higher perceived competence and self-regulation (Grolnick & Ryan, 1989), higher grades, and lower levels of symptomatology (e.g., Barber, 1996; Gray & Steinberg, 1999) in children. Longitudinal studies have supported this finding, with

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higher levels of autonomy supportive parenting associated with increases in grades (Steinberg, Elmen, & Mounts, 1989) and decreased behavioral problems (Grolnick, Kurowski, Dunlap, & Hevey, 2000) over time. Recent work with other populations has generally supported these findings. For example, Barber, Stolz, and Olsen's (2006) study of psychological control showed negative effects on such outcomes across six cultures, and Hill, Bush, and Roosa (2003) found that hostile control was associated with conduct problems and depression in both low-income Mexican American and European American groups.

Given that most of the studies of controlling parenting have included mothers, that mothers tend to be more involved than fathers (Pleck, 1997), and that maternal control may be more vulnerable to pressuring factors because mothers' role is a more active one (McBride, Schoppe, & Rane, 2002) with less discretion than fathers to withdraw from it under pressure (Cabrera, Tamis-LeMonda, Bradley, Hofferth, & Lamb, 2000), we focused on mothers in our study. Further, given that most studies of controlling parenting have included largely European American families, we attempted to recruit a somewhat more diverse sample in our study.

Situational Pressure and Controlling Behavior

From a self-determination viewpoint, controlling behaviors in caretakers undermine children's autonomy. Similarly, pressures on caretakers may undermine their own sense of autonomy in the way they interact with their children. Thus, when parents or teachers are interacting in situations involving evaluation, deadlines, or rigid standards, they may translate this pressure into more controlling styles with children. Illustrating this phenomenon, in an analog study of teachers, Deci, Spiegel, Ryan, Koestner, and Kauffman (1982) had college students "teach" other students to solve puzzles. "Teachers" who were told that they were "responsible for students' performing up to standards" talked more, let students work alone less, and used three times as many directives and "should type" statements as those who were told that there were "no specific performance requirements" (p. 853). Another study examined teachers' experience of pressure at work, in the form of teachers' perceptions that they were responsible for their students' performing to standards or that they had to conform to teaching standards (Pelletier, Ségun-Lévesque, & Legault, 2002). Teachers' experience of pressure at work undermined their motivation for teaching, which in turn was associated with more controlling orientations toward teaching. Grolnick, Gurland, DeCoursey, and Jacob (2002) showed that mothers who interacted with their children in a high-pressure condition, including performance standards, were more controlling on a poem task than those who did not receive such pressure. Thus, when situations pressure mothers by providing evaluation, deadlines, surveillance, performance standards, and so forth, mothers can be expected to transfer this pressure into controlling interactional styles.

Although situational characteristics are important, characteristics of mothers may also be associated with controlling behavior. For example, a previous study using a largely European American sample looked at the degree to which mothers endorsed use of control versus autonomy support with children (Grolnick et al., 2002). Mothers who endorsed more control displayed more controlling behavior on an academic-type parent-child task in the

laboratory. In the present study, we extend this work by examining mothers' attitudes toward control within the social domain. Further, we add to the literature by looking at another maternal characteristic, mothers' tendency to link their own feelings about themselves to their children's outcomes, which we view as a form of internal pressure.

Contingent Self-Worth and Controlling Behavior

Internal pressure has been studied in a variety of ways, one of which entails the way individuals become involved in tasks. *Ego-involvement*, as it is called, is an example of an internally controlling state that pressures individuals to behave in a certain way (Ryan, 1982) by linking performance to valued outcomes (e.g., intelligence). Ego-involvement in a task has been associated with feelings of pressure while doing the task, as well as less subsequent intrinsic motivation to pursue the task (Ryan, 1982).

Perhaps closer to the way people conceptualize pressure from within is contingent self-esteem or contingent self-worth. *Contingent self-esteem* refers to feelings about the self that are dependent on performance as evaluated by the self and/or others (Deci & Ryan, 1995). Conceptualized globally, individuals with contingent self-esteem are highly preoccupied with their achievements and place tremendous emphasis on how others view them (Kernis, 2003).

Crocker and Wolfe's (2001) domain-specific theory of self-worth contingency suggests that individuals pursue the goal of validating their worth by ensuring success and avoiding failure in domains in which their worth is invested (e.g., academics, sports). Thus, although most people have contingent self-worth, they vary in the domain in which their worth is invested. Crocker, Sommers, and Luhtanen (2002) showed that college students whose worth was contingent on their academic performance showed declines in self-esteem when receiving negative news and improvements in self-esteem when receiving positive news about graduate school acceptance. Children's performance is an outcome on which parents are likely to hinge their self-worth, given their enormous investment in their children. From an evolutionary viewpoint, parents are invested in their children thriving and reproducing and put high levels of resource and sacrifice into these goals (Trivers, 1974). Supporting the psychological ramifications of this investment, Dawber and Kuczynski (1999) showed that mothers felt more responsible for their own child's behavior and said they would be more upset if their own child transgressed versus the child's best friend or an unfamiliar child. Such findings suggest that the degree to which mothers hinge their self-worth on children's outcomes is likely to affect their interactions with their children.

In their recent work, Crocker and Park (2004) emphasized that the pursuit of self-esteem can have positive personal effects (e.g., feelings of pride and self-esteem enhancement) when goals are met but also personal costs (e.g., feelings of stress and shame) when goals are not met. However, pursuing self-esteem can also have interpersonal costs. In particular, when individuals are focused on self-esteem goals, they can become less attuned to the other. In one study, Park and Crocker (2005) measured college students' contingent self-worth in the academic domain, had these students engage in a task on which they received either failure or nonfailure feedback, and then had them interact with a partner who disclosed

a personal problem. Participants who received failure feedback, who demonstrated contingent self-worth, and who had high self-esteem were rated as least supportive and likeable by their partners. Thus, individuals who are pursuing self-worth goals in a domain in which their worth is invested may interact with others in less supportive ways. This study also illustrates another aspect of the theory—that the pursuit of self-esteem is triggered by situations involving some kind of threat. In this case, the threat was failure, but threats also include evaluation, competition, and scarcity. Thus, it is likely that contingencies of worth within a domain will interact with evaluation in that domain—a focus of this research.

Although Grolnick et al. (2002) did not measure contingent self-worth in mothers explicitly in the earlier described study, consistent with this interactive model, they found that some mothers were more affected by the level of pressure in the situation than others. In this study, mothers interacted with their children in either a high-pressure (i.e., led to believe their child should perform a certain way) or a low-pressure (i.e., no performance standards) situation. Prior to their participation in the task, mothers' attitudes toward supporting autonomy versus controlling behavior were measured. Results indicated an interaction between mothers' attitudes and the lab condition—specifically, mothers with controlling attitudes were more likely to become controlling with their children in the high-pressure relative to the low-pressure condition. On the other hand, mothers who had autonomy supportive parenting attitudes were relatively unaffected by the condition and in fact were somewhat more likely to be autonomy supportive in the high-pressure situation. Thus, pressure in the situation may activate preexisting attitudes in mothers, which in turn affect their behavior.

In this study, we explicitly measured the degree to which mothers tend to hinge their self-worth on their children's social outcomes (social contingent self-worth) as well as their attitudes toward control, and then we examined mothers' interactions with their children under a condition of social evaluation or nonevaluation. We predicted an interaction between social contingent self-worth and condition with the highest levels of controlling behavior in the mothers high in social contingent self-worth who interacted in the evaluation condition.

Pressure and Contingent Self-Worth in the Social Domain

This study focused on the effects of the pressure of evaluation perceived by mothers when their children are placed in social situations that require them to interact with peers. Past work examining the effects of situations on parent behavior has mainly examined children's academic performance (Grolnick et al., 2002). Children's social successes and failures are a domain in which parents are likely to be quite invested and in which parents may hinge their self-worth given the evaluation and competition often involved in social situations. Though little work has focused on parents' perceptions of their children's peer relationships, there is some evidence that parents place great importance on their children's social skills and thus that the social domain might be one to which parents might link their self-worth. For instance, mothers of less socially competent children worry about their children's peer relationships (Proffitt & Ladd, 1994) and provide more proximal supervision in play activities (Mize, Petit, & Brown, 1995).

Thus, in this study, we examined how mothers interact with their children when they feel that their children's social skills are being put to the test, specifically when they believe their child will interact with other children who they had not previously met. Mothers did so either within a condition in which they believed their child would be evaluated by other children or in one in which there was no mention of evaluation.

Child Characteristics and Controlling Behavior

In addition to situational and maternal characteristics, we also considered how characteristics of children may affect parenting behavior. We were particularly interested in mothers' perceptions of their children, because these perceptions have the most direct influence on attitudes and behavior. Previous research has shown that mothers who perceived their children as less capable were more likely to become controlling with them (Pomerantz & Eaton, 2001). Expecting that their children will not do well, these mothers may feel the need to intervene more in order to compensate for their child's low level of competence, thereby exerting more control. Thus, mothers who see their children as less competent socially may be more controlling with them in a peer-relevant situation. The relationship between mothers' contingent self-worth and children's characteristics is an interesting one that we see as exploratory. We suggest that these variables may be relatively independent in that mothers who see their children as high or low in competence can base their self-worth on children's performance, albeit with different outcomes for their self-esteem. However, it could be argued that mothers may focus on outcomes when they perceive their children as not doing well and may thus become more contingent in this domain. We examined the correlation between these variables as an area of exploration.

Current Study

To date, only one study has examined mothers' contingent self-worth and has shown that mothers who experience their self-worth as contingent on their children's outcomes were perceived as more controlling by their college-age children (Eaton & Pomerantz, 2004). Thus, this study contributes to the literature by examining effects of the situation, mothers' parenting attitudes and social contingent self-worth, and child competence on the level of maternal support for, versus control of, autonomy in the social domain. We examined self-reports of maternal behavior as well as observer ratings of mothers' behavior when interacting with their children on a self-presentation task in the laboratory.

For our parent-child interaction, we designed a socially relevant self-presentation task for children to complete that consisted of three sections, differing in the level of social desirability of possible responses. The first included simple informational questions about the child (e.g., age, number of siblings), the second contained open-ended opinion questions (e.g., "What is your favorite thing to do on the weekends?"), and the third consisted of hypothetical situations involving social problem-solving questions that had more or less right or wrong answers (e.g., "If a peer asks a child to play, the right thing to do would be to include that peer, not exclude him/her"). We expected that the more the task pulled for socially desirable answers, the more children's performance would be experienced as a potential threat to mothers who reported

more social contingent self-worth. Thus, we expected the strongest interactions of social contingent self-worth and condition for the social problem-solving task section.

In summary, we predicted that mothers' social contingent self-worth would moderate the effects of situational evaluation, such that mothers high in social contingent self-worth would exert more control with their children when in the evaluation condition. On the other hand, mothers low in social contingent self-worth would not react to situational pressure by becoming more controlling. We expected that this interaction would be most pronounced on the social problem-solving section of the task.

We also examined how maternal attitudes toward supporting versus controlling children's autonomy would affect behavior. Here we hypothesized that mothers who held more controlling attitudes would act consistently with them, regardless of condition. We also expected that mothers who perceived their children as less competent would exhibit more controlling attitudes and would be more controlling with their children in the laboratory. We did not expect that child competence would moderate effects of condition, as mothers who see their children as high or low in competence may react to evaluation if they are high in social contingent self-worth. Finally, we expected that mothers would be most controlling on the social problem-solving section of the task.

Method

Participants

Sixty mothers and their 4th-grade children (30 boys and 30 girls) from three public elementary schools in a medium-sized socioeconomically diverse New England city participated. The three schools varied in their socioeconomic levels, with 18%, 37%, and 52% of children qualifying for free lunch in the schools. The mothers mostly identified themselves and their children's fathers as European American (75% of mothers, 70% of fathers), with 5 mothers (8%) and 3 fathers (5%) identifying as Hispanic-Latino, 2 mothers (3%) and 7 fathers (12%) identifying as African American, 2 mothers (3%) and 2 fathers (4%) identifying as Asian, 1 father identifying (2%) as Native American, and 6 mothers (10%) and 4 fathers (7%) identifying as other. Mothers varied in level of education: 5 (8%) had completed high school, 20 (33%) reported some college or other training, 21 (35%) had graduated from college, and 14 (23%) reported schooling beyond college. Forty-six (76%) mothers were married, 6 (10%) were divorced, 2 (3%) were remarried, 2 (3%) were single, and 4 (7%) were widowed.

Procedure

Children learned about the project in their classrooms and received an information sheet to take home to their parents that described the project and asked for permission to be contacted if parents were interested in learning more about the project. The sheet described the goal of the project as "to find out about how children and parents view children's peer relationships and what role parents play in these relationships. We are also interested in what adults and children think about when children meet new kids." One hundred and eighty-eight (59%) of the families returned the permission slips. Of those returning the slips, 116 (61%) responded with interest in participating. This response rate is

comparable with similar studies requiring mothers and their children to come into the lab for a 2-hr visit. Participants were contacted and scheduled for a visit until the target of 60 families was reached.

Mothers and their children came into the laboratory for a one-time visit. Two mother-child dyads participated in the study at the same time. In order for children to actually meet a new child, dyads did not see one another until the end of the procedure. After the dyad was told about the project and the consent form was signed, an experimenter took the child into a separate room, where he or she completed a series of questionnaires on academic motivation, which were not part of this study. At the same time, the mother filled out the questionnaires regarding child characteristics, attitudes toward autonomy support versus control, social contingent self-worth, and demographic information with another experimenter. Once the questionnaires were completed but before the child reentered the room, the video camera was turned on and the mother received the following instructions depending on her random assignment to either an evaluation ($n = 30$) or no-evaluation ($n = 30$) condition.

Mothers in the evaluation condition were told,

Your child will have an opportunity to interact with other children his/her age. At the end of the interaction, the children will be rating the other children on what they thought of them. Based on this, we will determine how much each child was liked and accepted by their peers. So that the other children can get to know more about [child's name] before meeting him/her, we're going to have him/her fill out this form. It asks about [child's name] and what he/she would do in different situations.

Mothers in the no-evaluation condition were told,

Your child will have an opportunity to interact with other children his/her age. So that the other children can get to know more about [child's name] before meeting him/her, we're going to have him/her fill out this form. It asks about [child's name] and what he/she would do in different situations.

The mother was then given the About Me form to look over while the experimenter went to get the child. The About Me form is a self-presentation questionnaire that children fill out to describe themselves, their interests, and their anticipated responses to social situations. It was designed to focus on children's opinions and preferences and thus had no right or wrong answers (beyond simple facts like age and grade). Thus, we were interested in how much parents controlled and determined children's responses, particularly by giving answers themselves. The form consisted of three sections that differed in question format and content. The first section, information, consisted of close-ended, fill-in-the-blank questions that asked children their age, grade in school, number of siblings, as well as their favorite things (e.g., color, game, toy, food, place). The second section, opinions, consisted of open-ended, short-answer questions that asked children to describe themselves and their opinions (e.g., "What is your favorite holiday, and why is it your favorite?"). Section 3 consisted of social problem-solving questions. Children were instructed to think about how they would feel and write down what they would do in three social situations that children their age might encounter (e.g., "Two of your friends are in a fight, and both want you not to talk to the other. What would you do?").

Next, the child entered the room and the dyad completed the About Me form. The experimenter stated to the child,

Now it is time for you to fill out a form that will help the children you are about to meet get to know you better. In fact, it is called About Me. I'll leave you two alone for a few minutes. When you are finished, just knock on the door.

After the form was completed, the mother and child filled out questionnaires about their experience working on the form in separate rooms. Finally, the child was led into another room where he or she had an opportunity to play games with the other child participant. Mothers were informed that the study was complete, were given \$20 as a thank you, and were debriefed. The debriefing described the two conditions and clarified that children were not evaluated in either condition. It also validated and discussed parents' natural worry in stressful or evaluative situations. Later, trained coders rated the videotapes of mother-child interaction during completion of the About Me form.

Questionnaire Measures

Premanipulation Measures: Maternal Characteristics

Parenting Attitude Scale. This 10-item self-report questionnaire assesses parents' attitudes toward supporting versus controlling children's behavior (Grolnick, Benjet, Kurowski, & Apostoleris, 1997). Sample items include "I encourage my child to give his/her opinions, even if we might disagree" and "Children should always do what their parents say, no matter what." Each item is rated on a 5-point scale ranging from 1 (*strongly agree*) to 5 (*strongly disagree*). Higher scores represent more controlling parenting attitudes. Cronbach's alpha for this study was .67. More controlling attitudes on this scale have been linked to controlling behavior in the laboratory (Grolnick et al., 2002).

Parental Social Contingent Self-Worth Scale. This 8-item scale was developed by the authors based on Eaton and Pomerantz's (2004) Parental Contingent Self-Worth Scale to assess parents' ratings of how much their self-worth depends on their children's social successes and failures. Sample items include "My child's social successes are a reflection of my own worth" and "My child's social successes have very little influence on how I feel about myself." Each item is rated on a 7-point scale ranging from 1 (*strongly agree*) to 7 (*strongly disagree*). Factor analysis of the items revealed, according to the Scree test, a one-factor solution (eigenvalue = 4.40), with loadings ranging from .42 to .89 and a Cronbach's alpha of .87.

Premanipulation Measures: Child Characteristics

Social Anxiety Scales for Children—Parent Version. Mothers filled out the 8-item Fear of Negative Evaluation subscale of the Social Anxiety Scales for Children—Parent Version (La Greca & Stone, 1993) that assesses children's social evaluative anxiety. These items reflect fears, concerns, or worries regarding negative evaluations from peers (e.g., "My child is afraid that others will not like him/her"). Each item is rated on a 5-point scale ranging from 1 (*not at all*) to 5 (*all the time*). The scale's alpha was .92.

Perceived Competence Scale for Children. Mothers completed this 4-item scale that measures their perceptions of their

children's social competence (Harter, 1982). Each item presents two types of children, one representing a high level and the other a low level of competence (e.g., "My child finds it hard to make friends" or "For my child, it's pretty easy to make friends"). Mothers decide which item better describes their child and then rate whether the item is really true or sort of true. Cronbach's alpha was .83.

Postmanipulation Measures

Maternal Experience Questionnaire. Mothers filled out this 14-item scale, created for this study, after completing the About Me form with their children. Items assessed ego-involvement (e.g., "If my child is not received well by the other children, I will feel bad about myself"), interest-enjoyment (e.g., "I had fun while my child was working on the questionnaire"), and worry (e.g., "I am worried about how other children will perceive my child"). A principal-components factor analysis using oblique rotation yielded a three-factor solution by the Mineigen criteria, with factors of Ego-Involvement ($\alpha = .86$), Interest-Enjoyment ($\alpha = .80$), and Worry ($\alpha = .93$; eigenvalues: 3.89, 3.48, 1.45, respectively). All loadings were greater than .60. There were no cross-loadings greater than |.22|.

Maternal behavior ratings. Videotapes of the mother-child dyads working on the self-presentation task were coded for autonomy support to control using two coding systems (Grolnick et al., 2002).

Autonomy supportive and controlling content codes. For each 5-s interval, we recorded instances of four verbal content codes. Multiple content codes in an interval were permitted. Controlling content codes included directing, which included leading questions (e.g., "Hurry up and write your answer") and taking over (e.g., reading the directions to the child), and giving answers, which was unsolicited telling the child the answer to a question (e.g., telling the child their favorite holiday). Autonomy supportive content codes included feedback and encouragement (e.g., "Good work") and information, hints, and strategies, which were either solicited by the child or a response to the child's difficulty with the task (e.g., when the child seemed to not know how to answer a question about a favorite toy, "What things do you like to play with after school?"). Total counts for each code were computed.

Because dyads varied in the time they took to complete the task and how many intervals in which they spoke, we transformed the frequencies of codes to proportions by dividing the number of intervals containing the code by the number of intervals in which there was some mother speech. We created an additional variable representing the percentage of intervals in which the mother spoke (mother speech) by dividing the number of intervals in which there was any mother speech by the total intervals the dyad took to complete the task.

Means for the four content codes recorded in this study ranged from .03 (giving answers in the social problem-solving section) to .46 (directing in the information section; see Table 1). Feedback and information, the two autonomy supportive content codes, were not correlated with one another and were moderately negatively correlated with the two controlling content codes (directing and giving answers). The controlling content codes directing and giving answers were positively, though not significantly, related ($r =$

Table 1
Means With Confidence Intervals and Standard Deviations of Mother and Child Variables

Variable	M (CI)	SD	Actual range	Possible range
Mother self-report				
Mothers' social contingent self-worth	3.37 (3.06–3.67)	1.18	1.63–6.63	1–7
Mothers' controlling attitudes	2.23 (2.07–2.40)	0.63	1.00–4.20	1–5
Children's social competence	3.30 (3.12–3.47)	0.68	1.38–4.00	1–4
Children's fear of negative evaluation	2.24 (2.05–2.43)	0.73	1.00–3.83	1–5
Children's grades	10.08 (9.52–10.64)	2.21	3.00–13.00	1–13
Mother laboratory behavior				
Behavior rating				
Information	2.56 (2.40–2.74)	0.64	1.67–4.83	1–5
Opinion	2.78 (2.60–2.96)	0.67	1.92–5.00	1–5
Social problem solving	2.84 (2.61–3.07)	0.85	1.00–5.00	1–5
Content codes				
Giving answers				
Information	0.08 (0.05–0.11)	0.11	0–0.44	0–1
Opinion	0.11 (0.08–0.13)	0.10	0–0.40	0–1
Social problem solving	0.03 (0.02–0.05)	0.06	0–0.25	0–1
Directing				
Information	0.32 (0.25–0.39)	0.24	0–1.17	0–2
Opinion	0.37 (0.32–0.43)	0.21	0–0.92	0–2
Social problem solving	0.46 (0.38–0.53)	0.28	0–1	0–2
Information				
Information	0.37 (0.31–0.43)	0.23	0–0.93	0–1
Opinion	0.28 (0.24–0.34)	0.19	0–0.80	0–1
Social problem solving	0.26 (0.22–0.32)	0.21	0–0.83	0–1
Feedback				
Information	0.32 (0.27–0.37)	0.20	0–0.83	0–1
Opinion	0.30 (0.26–0.34)	0.16	0.04–0.73	0–1
Social problem solving	0.28 (0.23–0.35)	0.23	0–1	0–1
Mother speech				
Information	0.48 (0.44–0.53)	0.17	0.15–0.87	0–1
Opinion	0.37 (0.33–0.41)	0.16	0–0.73	0–1
Social problem solving	0.31 (0.27–0.37)	0.19	0–0.77	0–1

Note. Confidence intervals (CIs) are reported at the 95% level.

.25, $p < .06$). Given that the four codes were not strongly correlated, they were treated separately in all analyses.

Autonomy supportive versus controlling behavior rating. In addition to counts of content codes of mothers' verbalizations, we rated each 5-s interval on a 5-point scale from 1 (*highly autonomy supportive*) to 5 (*highly controlling*). Mothers were rated as highly controlling when, for example, they gave the child many answers, fired directions at the child, or took over the task. A high autonomy support rating was given when mothers provided general feedback, reflection, or encouragement to the child, as well as when mothers provided informational hints, strategies, and helpful questions following the child. The mean rating across each section was computed.

Interrater Agreement

Two or more raters independently coded each videotape. After coding the interval, they discussed disagreements until a consensus code was reached. Interrater reliability for the content codes prior to discussion yielded the following Cohen's kappa: $\kappa = .90$. The Shrout–Fleiss intraclass correlation for the overall autonomy support to control ratings was .93.

Results

Preliminary Analyses

Evaluation of randomization to condition. Participants were assigned to a condition randomly, making sure that cells were balanced by gender and school. This strategy resulted in equal numbers of boys and girls in the two conditions (15 boys and 15 girls in each condition). Further, there were approximately equal numbers of European American (evaluation: $n = 23$; no evaluation: $n = 22$) and non-European American (evaluation: $n = 7$; no evaluation: $n = 8$) participants in each condition. It is important to note that participants in the two conditions did not differ on either social contingent self-worth (evaluation: $M = 3.55$, $CI^1 = 3.0–4.01$, $SD = 1.21$; no evaluation: $M = 3.18$, $CI = 2.77–3.60$, $SD = 1.12$; $t[58] = 1.21$) or on controlling attitudes (evaluation: $M = 2.25$, $CI = 1.98–2.52$, $SD = 0.72$; no evaluation: $M = 2.22$, $CI = 2.02–2.40$, $SD = 0.53$; $t[58] = 0.21$). We tested whether participants in the two conditions differed a priori on all variables (e.g., demographics, mother report, child report). Of the 41 analyses

¹ All confidence intervals (CIs) are computed at the 95% level.

conducted, one main effect of condition was found for children's reading grades, $F(1, 57) = 5.88, p < .02, d = 0.64$. According to mothers' reports, children in the evaluation condition ($M = 10.79, CI = 10.16-11.32, SD = 1.60$) attained higher grades than did children in the no-evaluation condition ($M = 9.43, CI = 8.49-10.37, SD = 2.51$). Even though this one significant finding would be expected by chance, to be conservative we controlled for children's grades in the primary analyses.

Gender differences. To determine whether there were gender differences or interactions between gender and condition, we conducted a series of 2×2 analyses of variance for all independent and dependent variables (self-report and ratings of laboratory behavior). There were no significant main effects of gender or Gender \times Condition interactions.

Relations among maternal and child characteristics. Descriptive statistics for social contingent self-worth indicate that, on average, mothers were approximately at the midpoint of the 7-point scale ($M = 3.37, CI = 3.06-3.67$) with adequate variability ($SD = 1.18$). This was also the case for controlling attitudes—the mean of 2.23 ($CI = 2.07-2.40$) was close to the midpoint indicating, on average, neither highly controlling nor highly autonomy supportive attitudes.

There were significant correlations among mother and child characteristics (see Table 2). Higher levels of social contingent self-worth in mothers were associated with higher levels of controlling parenting attitudes. In addition, mothers who perceived their children as more fearful of negative evaluation in social situations tended to have more controlling parenting attitudes. Further, when mothers perceived their children as more fearful of negative evaluation, they also reported more social contingent self-worth. There were no significant relations between mothers' perceptions of their children's social competence and the other maternal characteristics. However, there were significant relations among maternal reports of child characteristics, such that mothers' reports of their children as more socially competent were positively associated with grades and negatively associated with fear of negative evaluation.

Correlations between maternal and child characteristics and behavior ratings. Although the major hypotheses centered around interactions between condition and individual differences in mothers on behavior in the self-presentation (About Me) task, which will be discussed in the next section, we also examined

whether the mother and child characteristics were associated with maternal behavior and whether mothers' reports of their experience with the self-presentation task were associated with maternal behavior. Mothers' contingent self-worth was marginally associated with the rating of autonomy support to control ($r = .22, p < .10$). Mothers' controlling attitudes were associated with the rating of autonomy support to control during the task ($r = .45, p < .01$) and to percentage of time directing ($r = .36, p < .01$) and giving answers ($r = .43, p < .01$). There were no significant relations between fear of negative evaluation or perceptions of social competence and behavior ratings or codes. Finally, there were no significant correlations between observer ratings and mothers' reports of their ego-involvement, worry, or interest-enjoyment of the task.

Primary Analyses

Effects of condition and maternal characteristics on behavior ratings during the self-presentation task. In order to examine the effects of condition, maternal characteristics,² and their possible interaction on maternal behavior during mother-child interactions, we conducted two sets of repeated measures analyses of variance—one including social contingent self-worth and the other including mothers' attitudes toward control. Each analysis included two between-subjects variables, condition (evaluation [$n = 30$] vs. no evaluation [$n = 30$]) and mothers' characteristics (high vs. low social contingent self-worth, high vs. low controlling attitudes, computed by conducting median splits³ of these variables), and the interaction between the maternal characteristics and condition. The three sections of the About Me form were treated as a repeated measure. Reading grades were entered as a covariate. These analyses were conducted for each of the autonomy supportive to controlling behavior rating codes (four content codes, one behavior rating, and the amount of maternal speech).

Effects of condition and social contingent self-worth on maternal behavior ratings. There was one significant main effect of condition for giving answers (see Table 3). Across the three task sections, mothers in the evaluation condition spent a greater proportion of time giving answers to the questions ($M = 0.09, CI = 0.06-0.12, SD = 0.08$) than did those in the no-evaluation condition ($M = 0.06, CI = 0.04-0.08, SD = 0.05$). There was one Task Section \times Condition effect for offering information. Further analysis indicated that the effect of condition held only for the social problem-solving section—for this section, mothers in the no-evaluation condition spent a higher proportion of time offering information ($M = 0.34, CI = 0.27-0.39, SD = 0.22$) than did those in the evaluation condition ($M = 0.18, CI = 0.14-0.27, SD = 0.16$).

There were two main effects of social contingent self-worth, indicating that mothers low in social contingent self-worth spent a higher proportion of time offering information ($M = 0.36, CI = 0.30-0.41, SD = 0.15$) than did those high in social contingent self-worth ($M = 0.26, CI = 0.20-0.32, SD = 0.16$). Further, high

² We also checked to see whether there were main effects, or interactions with condition, of the two child characteristics, fear of negative evaluation and social competence, on mothers' laboratory behavior. No such effects were in evidence.

³ Medians were close to the means and to the midpoint of the scales. Thus, median splits were used to create equal groups.

Table 2
Relations Among Mothers' Reports of Self and Child Characteristics

Variable	1	2	3	4	5
1. Mothers' social contingent self-worth	—	.31*	.01	.27*	-.08
2. Mothers' controlling attitudes		—	-.11	.35**	-.17
3. Children's social competence			—	-.51***	.38**
4. Children's fear of negative evaluation				—	-.17
5. Children's grades					—

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

Table 3
F Values for Social Contingent Self-Worth (SCSW) Repeated Measures Analyses of Variance

Variable	Section (<i>dfs</i> = 2, 110)	Condition (<i>dfs</i> = 2, 54)	Section × Condition (<i>dfs</i> = 2, 110)	SCSW (<i>dfs</i> = 2, 54)	SCSW × Condition (<i>dfs</i> = 2, 54)	Section × Condition × SCSW (<i>dfs</i> = 2, 110)
Behavior rating	0.42 (0.01)	0.64 (0.01)	0.07 (0.001)	3.09 [†] (0.06)	0.01 (0.00)	0.13 (0.003)
Content codes						
Giving answers	3.79* (0.06)	4.79* (0.08)	0.25 (0.004)	1.82 (0.03)	5.06* (0.09)	0.82 (0.01)
Directing	0.83 (0.02)	2.25 (0.04)	0.96 (0.02)	6.35* (0.10)	1.30 (0.03)	0.15 (0.002)
Information	0.90 (0.02)	0.21 (0.004)	3.35* (0.06)	6.38* (0.10)	1.56 (0.03)	3.94* (0.06)
Feedback	0.50 (0.01)	1.42 (0.02)	0.65 (0.01)	2.22 (0.04)	1.02 (0.02)	1.09 (0.02)

Note. Effect sizes are shown in parentheses and were computed as partial eta squared (η_p^2). Eta-squared values typically range from 0.01 to 0.09. According to Cohen (1992), 0.01 is a small effect, 0.06 is a medium effect, and 0.14 is a large effect.

[†] $p < .10$. * $p < .05$.

social contingent self-worth mothers used more directing ($M = 0.44$, $CI = 0.32-0.49$, $SD = 0.20$) than did low social contingent self-worth mothers ($M = 0.32$, $CI = 0.24-0.36$, $SD = 0.18$).

Finally, there were several predicted interactions between social contingent self-worth and condition. The interaction for giving answers indicated that high social contingent self-worth mothers in the evaluation condition spent a greater proportion of the time giving answers to the child ($M = 0.12$, $CI = 0.07-0.16$, $SD = 0.08$) than did those in the no-evaluation condition ($M = 0.06$, $CI = 0.02-0.09$, $SD = 0.05$), $t(28) = 2.58$, $p < .02$, $d = 0.90$ (see Table 4). For low social contingent self-worth mothers, there was no effect of condition (evaluation: $M = 0.05$, $CI = 0.02-0.09$, $SD = 0.06$; no evaluation: $M = 0.06$, $CI = 0.03-0.09$, $SD = 0.06$), $t(28) = -0.44$. There was also a Task Section × Condition × Social Contingent Self-Worth interaction for offering information, indicating a significant interaction between condition and social contingent self-worth for the section on social problem solving, with mothers who were low in social contingent self-worth and who were placed in the no-evaluation condition providing more information ($M = 0.44$, $CI = 0.31-0.56$, $SD = 0.24$) than did low contingent self-worth mothers in the evaluation condition ($M = 0.14$, $CI = 0.07-0.28$, $SD = 0.16$), $t(28) = -3.73$, $p < .001$, $d = 1.47$, or high contingent self-worth mothers in either the evaluation ($M = 0.22$, $CI = 0.15-0.32$, $SD = 0.16$, $t(28) = 2.85$, $p < .008$, $d = 1.07$, or no-evaluation ($M = 0.23$, $CI = 0.15-0.31$, $SD = 0.13$), $t(28) = 2.70$, $p < .01$, $d = 1.08$, conditions. Mothers with high contingent self-worth provided similar percentages of infor-

mation in the evaluation ($M = 0.22$, $CI = 0.15-0.32$, $SD = 0.16$) and the no-evaluation ($M = 0.23$, $CI = 0.15-0.31$, $SD = 0.13$) conditions, $t(28) = -0.07$.

Effects of condition and mothers' controlling attitudes on maternal behavior ratings. The one condition effect, with mothers in the evaluation condition giving more answers than those in the no-evaluation condition, was consistent with the previous analyses (see Table 5). However, in contrast to the few main effects for contingent self-worth, there were main effects for mothers' controlling attitudes for all of the outcomes (see Table 5). Mothers who endorsed more controlling attitudes were more controlling on the behavior rating during the task ($M = 2.94$, $CI = 2.76-3.13$, $SD = 0.52$) and were lower on the two autonomy supportive content codes, offering information ($M = 0.27$, $CI = 0.22-0.33$, $SD = 0.16$) and giving feedback ($M = 0.26$, $CI = 0.22-0.30$, $SD = 0.12$), than were those who endorsed more autonomy supportive attitudes ($M = 2.53$, $CI = 2.29-2.76$, $SD = 0.58$; $M = 0.36$, $CI = 0.30-0.42$, $SD = 0.15$; and $M = 0.36$, $CI = 0.30-0.42$, $SD = 0.15$, respectively). Mothers who endorsed more controlling attitudes were higher in directing ($M = 0.44$, $CI = 0.34-0.48$, $SD = 0.20$) and giving answers ($M = 0.09$, $CI = 0.07-0.12$, $SD = 0.07$) than were those who endorsed more autonomy supportive attitudes ($M = 0.31$, $CI = 0.21-0.33$, $SD = 0.17$; $M = 0.04$, $CI = 0.02-0.07$, $SD = 0.05$, respectively).

Finally, there was one Attitude Toward Control × Condition interaction. Mothers who held more controlling beliefs and were in the evaluation condition spent a greater proportion of time giving answers

Table 4
Means With Confidence Intervals and Standard Deviations by Condition and Mothers' Social Contingent Self-Worth (SCSW)

Variable	Evaluation				No evaluation			
	Low SCSW (<i>n</i> = 14)		High SCSW (<i>n</i> = 16)		Low SCSW (<i>n</i> = 16)		High SCSW (<i>n</i> = 14)	
	<i>M</i> (CI)	<i>SD</i>	<i>M</i> (CI)	<i>SD</i>	<i>M</i> (CI)	<i>SD</i>	<i>M</i> (CI)	<i>SD</i>
Behavior rating	2.50 (2.24-3.02)	0.70	2.86 (2.56-3.18)	0.57	2.58 (2.31-2.89)	0.54	2.91 (2.71-3.35)	0.52
Content codes								
Giving answers	0.05 (0.02-0.09)	0.06	0.12 (0.07-0.16)	0.08	0.06 (0.03-0.09)	0.06	0.05 (0.02-0.09)	0.05
Directing	0.25 (0.19-0.37)	0.16	0.31 (0.23-0.42)	0.16	0.28 (0.24-0.42)	0.14	0.34 (0.23-0.40)	0.19
Information	0.31 (0.22-0.39)	0.15	0.26 (0.18-0.35)	0.16	0.40 (0.32-0.47)	0.14	0.26 (0.14-0.37)	0.16
Feedback	0.38 (0.28-0.49)	0.17	0.29 (0.22-0.35)	0.12	0.28 (0.21-0.35)	0.13	0.26 (0.16-0.31)	0.14

Table 5
F Values for Controlling Parenting Attitude (CPA) Repeated Measures Analyses of Variance

Variable	Section (<i>dfs</i> = 2, 110)	Condition (<i>dfs</i> = 2, 54)	Section × Condition (<i>dfs</i> = 2, 110)	CPA (<i>dfs</i> = 2, 54)	CPA × Condition (<i>dfs</i> = 2, 54)	Section × Condition × CPA (<i>dfs</i> = 2,110)
Behavior rating	0.28 (0.01)	1.36 (0.00)	0.06 (0.01)	8.22** (0.19)	2.10 (0.00)	0.65 (0.01)
Content codes						
Giving answers	3.73* (0.07)	7.70** (0.10)	0.17 (0.005)	13.14*** (0.14)	6.14* (0.08)	1.98 (0.007)
Directing	0.85 (0.04)	0.80 (0.00)	1.10 (0.01)	6.32* (0.15)	0.15 (0.007)	0.11 (0.01)
Information	0.89 (0.02)	0.97 (0.003)	2.52† (0.05)	5.51* (0.08)	0.21 (0.001)	1.71 (0.03)
Feedback	0.43 (0.03)	0.76 (0.007)	0.28 (0.003)	6.13* (0.15)	2.04 (0.01)	0.00 (0.002)

Note. Effect sizes are shown in parentheses and were computed as partial eta squared (η_p). Eta-squared values typically range from 0.01 to 0.09. According to Cohen (1988), 0.01 is a small effect, 0.06 is a medium effect, and 0.14 is a large effect.

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

($M = 0.14$, $CI = 0.10$ – 0.18 , $SD = 0.07$) than did those holding such beliefs but who were in the no-evaluation condition ($M = 0.06$, $CI = 0.04$ – 0.09 , $SD = 0.06$), $t(31) = 3.31$, $p < .003$, $d = 1.23$ (see Table 6). For those with more autonomy supportive attitudes, the condition did not affect the proportion of time spent giving answers (evaluation: $M = 0.04$, $CI = 0.01$ – 0.07 , $SD = 0.05$; no evaluation: $M = 0.05$, $CI = 0.02$ – 0.08 , $SD = 0.05$), $t(25) = -0.29$.

Effect of condition and maternal characteristics on maternal experience during the interaction. We also examined effects of condition and maternal characteristics on mothers' experiences working on the About Me form using two-way analyses of variance, with two independent variables: condition (evaluation [$n = 30$] vs. no-evaluation [$n = 30$]) and maternal characteristic (social contingent self-worth or controlling parenting attitudes). There were no main effects of condition or social contingent self-worth for mothers' feelings of ego-involvement, interest-enjoyment, or worry while working on the About Me form. There was a significant main effect for controlling attitudes, $F(1, 59) = 6.21$, $p < .05$, $\eta_p = .07$, such that mothers with more controlling attitudes reported feeling more ego-involved during the task ($M = 1.97$, $CI = 1.57$ – 2.34 , $SD = 1.10$) than did mothers who endorsed more autonomy supportive attitudes ($M = 1.46$, $CI = 1.23$ – 1.70 , $SD = 0.61$).

A final analysis examined the effects of our independent variables on mothers' overall speech. There was one effect of maternal attitudes, $F(2, 54) = 5.14$, $p < .05$, with mothers with more controlling attitudes speaking in a greater proportion of intervals ($M = 0.43$, $CI = 0.38$ – 0.47 , $SD = 0.13$) than did those with autonomy supportive attitudes ($M = 0.34$, $CI = 0.28$ – 0.40 , $SD = 0.15$).

Analyses of sections of the self-presentation task. We hypothesized that mothers would be rated as more controlling in their behavior on each subsequent section of the task. This was examined in two ways—through task section effects in the earlier presented analyses and through linear trend analyses. As can be seen in Table 3, there was a task section effect for giving answers. Contrary to our expectations, means indicated that mothers gave their children fewer answers in the social problem-solving section ($M = 0.03$, $CI = 0.02$ – 0.05 , $SD = 0.06$) than they did in the other two sections (information: $M = 0.08$, $CI = 0.05$ – 0.11 , $SD = 0.11$; opinion: $M = 0.11$, $CI = 0.08$ – 0.13 , $SD = 0.10$).

Given that the three sections of the task contained questions with increasing levels of more socially desirable answers, we expected an increase in level of control across the three sections. Linear trend analysis indicated that mothers were rated as more controlling on the behavior rating across the three sections (linear trend $t = -2.04$, $B = -.28$, $p < .05$), as directing more across the sections (linear trend $t[179] = 2.95$, $B = .13$, $p < .004$), and as lower across sections in the information provided (linear trend $t = -2.76$, $B = -.11$, $p < .01$), thus supporting this hypothesis. The linear trends were not moderated by maternal characteristics.

Discussion

Our data provide insight into the dynamic ways in which maternal, child, and situational factors impact mothers' autonomy support versus control.

Table 6
Means With Confidence Intervals (CIs) and Standard Deviations by Condition and Mothers' Controlling Parenting Attitudes (CPA)

Variable	Evaluation				No evaluation			
	Low CPA ($n = 16$)		High CPA ($n = 14$)		Low CPA ($n = 11$)		High CPA ($n = 19$)	
	<i>M</i> (CI)	<i>SD</i>	<i>M</i> (CI)	<i>SD</i>	<i>M</i> (CI)	<i>SD</i>	<i>M</i> (CI)	<i>SD</i>
Behavior rating	2.39 (2.15–2.79)	0.68	3.04 (2.79–3.35)	0.54	2.59 (2.22–2.99)	0.55	1.83 (2.60–3.11)	0.54
Content codes								
Giving answers	0.04 (0.01–0.07)	0.05	0.14 (0.10–0.18)	0.07	0.05 (0.02–0.08)	0.05	0.06 (0.04–0.09)	0.06
Directing	0.29 (0.16–0.32)	0.17	0.43 (0.30–0.47)	0.18	0.34 (0.21–0.44)	0.17	0.45 (0.32–0.54)	0.22
Information	0.33 (0.26–0.41)	0.15	0.23 (0.15–0.31)	0.14	0.38 (0.28–0.49)	0.16	0.30 (0.22–0.38)	0.16
Feedback	0.40 (0.32–0.48)	0.15	0.26 (0.19–0.33)	0.12	0.29 (0.20–0.38)	0.14	0.26 (0.20–0.32)	0.13

Condition, Social Contingent Self-Worth, and Autonomy Support Versus Control

Our primary hypothesis was that social contingent self-worth would moderate the effects of evaluative condition such that the highest levels of maternal controlling behavior would be exhibited by mothers high in social contingent self-worth who were in the evaluation condition. There was some support for this finding—mothers high in contingent self-worth who were in the evaluation condition spent a greater proportion of time answering questions for their child than did those in the no-evaluation condition. There was no effect of condition for the low contingent self-worth mothers. We suggest that situational pressure related to the domain, in this case the social domain, may activate contingencies of self-worth and result in mothers assuring that their children provide the most desirable impression, even if this means giving their own and not their child's opinion. When tendencies to experience internal pressure (i.e., high contingent self-worth) are combined with external pressure (i.e., evaluation), parents may experience this pressure as a threat to self and become less likely to allow the child to determine his or her own responses. Such an interpretation is consistent with findings regarding the different sections of the self-presentation task. We did find support for our prediction that interactions between contingent self-worth and condition would be strongest for the social problem-solving section of the task. In particular, on the social problem-solving section of the task, mothers in the no-evaluation condition offered more information (an autonomy supportive behavior) than did mothers in the evaluation condition. Similarly, on this section, we found that low contingent self-worth mothers were more likely to offer information in the no-evaluation than in the evaluation condition. Because the situations presented in this section could be seen as having more and less socially acceptable answers and it would be more obvious to mothers that other children might react negatively to some of their own children's particular responses (e.g., children stating that they would include a child even if their friends said no vs. leaving the child out), this section might have been especially sensitive to maternal differences.

Although these predicted interactions were in evidence, there were no interactions for other dependent variables, notably directing, feedback, and the overall behavior rating. One explanation for this finding is that the effect of condition may have been somewhat limited. We suggest that mothers and children have long-standing ways of interacting and it is difficult in a laboratory situation to affect these patterns. Viewed in this light, that there was one main effect of condition for giving answers, as well as several interactions for social contingent self-worth, attests to the importance of the situation in which mothers and children interact. In future studies, it may be important to increase the strength of the manipulation, though this must be carefully considered so as to not create an artificial or distressing situation.

There were also some individual effects of social contingent self-worth. Mothers low in social contingent self-worth were significantly more likely to offer information (an autonomy supportive code), use less directing, and were rated as marginally more autonomy supportive than were those with high social contingent self-worth. This tendency to hinge self-worth on children's social successes or failures affected mothers' approach to the task with a more intrusive, directive style associated with greater contingency.

Maternal Autonomy Supportive Versus Controlling Attitudes

Our second hypothesis was that mothers' attitudes toward control would function somewhat differently than would contingent self-worth. Here we expected main effects of controlling attitudes on controlling behavior. Mothers who endorsed controlling parenting were significantly more likely to give answers to their children and to be rated as more controlling and were less likely to offer feedback and information. In addition, mothers with controlling attitudes spent a greater proportion of the time talking than did mothers with autonomy supportive attitudes. As predicted, these findings held regardless of condition. Given the different pattern of results for social contingent self-worth and controlling attitudes, it would be interesting to determine whether the two variables evoked control in different ways (e.g., in a more purposeful way in the case of attitudes). One way to address this in future studies might be to interview parents after observing them working with their child. Further, it would be important to determine in future studies whether the effects of control evoked by pressure or by endorsement consistent with cultural goals and values had different effects for the child. As this study did not look at the effects of autonomy supportive versus controlling parenting on child outcomes, this is an important direction for future work. For example, one might use observational methods to explore how autonomy supportive versus controlling parenting behavior affects children's motivation and persistence in social problem-solving situations in the lab. In addition, it would be interesting to observe how parents interact with their children in situations directly involving other children, rather than on a paper-and-pencil task.

Maternal and Child Characteristics

The relations among maternal characteristics and between maternal and child characteristics shed light on some of the psychological dynamics of contingent self-worth and control. First, there were predicted relations between mothers' reports of their contingent self-worth and controlling attitudes. Because their self-worth is contingent on their children's social successes, mothers with high contingent self-worth may feel compelled to control their children's behavior to ensure that they succeed. Social contingent self-worth was also associated with mothers' reports that their children were sensitive to negative evaluation by peers. The most obvious explanation for this finding is that mothers begin to hinge their self-worth on their children's social outcomes when they have a child who is worried and fearful in social situations. However, another possibility is that mothers' heightened focus on their children's outcomes actually leads their children to become more sensitive to social evaluation. A third possibility, given that both measures were mother report, is that mothers with contingent self-worth may be projecting their own fears of negative evaluation onto their children. To understand these possibilities, future researchers should ask children directly about their fear of negative peer evaluation. Nevertheless, our findings do help researchers understand factors that may play a role in, and result from, mothers' contingent self-worth.

In contrast to this relation for fear of negative evaluation, there were no significant relations between mothers' perceptions of children's social competence and their contingent self-worth. This

makes sense in that mothers may hinge their worth on children's performance when the children are either high or low in competence, with different outcomes for their self-worth. Thus, it appears to be mothers' feeling that their child worries or fears social evaluation that most relates to their internal pressure.

Our final hypothesis was that the different sections of the task would evoke different levels of control. This was evident in the linear trend analyses for directing, information, and the overall behavior rating. These results indicate that mothers were more controlling on each subsequent section of the task. Thus, when parents perceive there is a more appropriate way to proceed, they are particularly likely to intervene to ensure the right outcome. This result is at odds with the finding that mothers gave fewer answers on the social problem-solving section. We speculate that parents felt they should not explicitly answer the questions that had "correct" answers for the children. However, they did more subtly determine the answers by directing more and following their children less. How the nature of tasks affects parent behavior is an interesting topic for future studies.

It is interesting, however, that there were no effects of condition on mothers' reports of pressure or ego-involvement during the task. This may seem surprising given that experiences of pressure could be the putative mechanism through which situational pressure has its effect. However, this result is consistent with those of two earlier studies (Deci et al., 1982; Grolnick et al., 2002) showing effects of situational pressure on behavior but not on self-report of pressure. Together these findings suggest that responses to evaluative situations and to self-worth contingencies may not reflect a conscious process. Mothers may not be aware of how they are cognitively and affectively affected by particular situations and of their own ego-investment in their children's performance. Further, they may alleviate possible tension by controlling their children to provide certainty of the desired outcome. This may be one way in which ego-involvement in others' behavior differs from that in one's own behavior—there is an outlet on which to transfer potential pressure. Increasing parents' awareness of the impact of the situation and of their tendency to hinge self-worth on outcomes may be one way to help parents provide autonomy support in challenging circumstances.

Limitations and Directions for Future Research

We end with some limitations of our study. First, our study looked at a mainly European American sample, with the majority having some education after high school. Thus, our results cannot be generalized to different cultures or groups with different economic or social situations. This criticism has been made of the work on parental controlling styles in general, which has mainly been conducted with European American families. Although the work with diverse samples, reviewed in the introduction, has generally found negative effects of controlling styles on motivation and adjustment (e.g., Barber et al., 2006; Hill et al., 2003), somewhat less consistent findings have been reported within Asian American populations, with some researchers finding negative effects (e.g., Chen, Dong, & Zhou, 1997) and others finding no or positive effects (e.g., Chao, 2001; Leung, Lau, & Lam, 1998). Further research is necessary to determine whether such discrepancies might be understood as differences in the way the same practices might be perceived in different cultures.

It might be especially interesting to examine factors influencing control versus autonomy support in cultures marked by a high value for interdependence. It is possible, for example, that in such cultures contingent self-worth would be higher in that parents' and children's self-construals are more intertwined (Wang & Pomerantz, 2003). However, whether contingent self-worth would be associated with control in such cultures and whether control would have a negative impact on children's motivation and performance is an open question.

Second, our study looked at only one kind of situational pressure, evaluation. Situations may afford other types of pressure such as including standards and introducing limited resources. In future studies, it would be interesting for researchers to determine whether such pressures impact mothers' behavior. Third, the laboratory paradigm may have introduced some artificiality. The task, providing information about oneself for other children to see, is not one in which parents and children typically engage. However, it is likely that mothers informally advise their children about how to behave when meeting new children. Further, the lab and videotaping might have made mothers feel somewhat evaluated, even in the no-evaluation situation. However, the validity of the results of the lab experiment is bolstered by the results' convergence with the self-report data that asked mothers about behavior outside the laboratory. Fourth, our use of repeated measures analyses required us to split continuous variables into high and low groups. Such a procedure can result in a loss of power and may have made some of the findings appear weaker. Finally, the study focused on mothers. It would be important to determine whether fathers and other caretakers, such as teachers, are vulnerable to the types of pressure examined in this study. One might speculate that given their role in Western society as the primary caretaker and the history of "mother blame" for children's difficulties (Grolnick & Gurland, 2002), mothers may be more likely to hinge their worth on their children's outcomes than fathers, thus showing higher mean levels of contingent self-worth as examined here. However, how fathers who do hinge their worth on their children's outcomes would likely respond is an open question and an important topic for future research.

In sum, our results provide support for the effects of evaluative pressure, particularly on those who tend to hinge their self-worth on their children's social successes. Parents today are faced with many situations involving pressure. For example, they may feel pressure to have their children perform well on homework, to be included in certain social groups, and to do well in the increasingly competitive world of children's sports. These findings have important implications for those who work with children and parents. It would be important for such individuals to be sensitive to the level of pressure in the situation and, if possible, to minimize such pressure by focusing more on process and less on outcomes and by deemphasizing comparison and evaluation. Further, it may be possible to make parents aware of the ways in which they typically respond to pressure and how their responses might undermine children's motivation.

References

- Barber, B. K. (1996). Parental psychological control: Revisiting a neglected construct. *Child Development, 67*, 3296–3319.
- Barber, B. K., Stolz, H. E., & Olsen, J. A. (2006). Parental support,

- psychological control, and behavioral control: Assessing relevance across time, culture, and method. *Monographs of the Society for Research in Child Development*, 70(4, Serial No. 282).
- Cabrera, N. J., Tamis-LeMonda, C. S., Bradley, R. H., Hofferth, S., & Lamb, M. E. (2000). Fatherhood in the 21st century. *Child Development*, 71, 127–136.
- Chao, R. K. (2001). Extending research on the consequences of parenting style for Chinese Americans and European Americans. *Child Development*, 72, 1832–1843.
- Chen, X., Dong, Q., & Zhou, H. (1997). Authoritative and authoritarian parenting practices and social and school performance in Chinese children. *International Journal of Behavioral Development*, 21, 855–873.
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112, 155–159.
- Conger, R. D., McCarty, J. A., Yang, R. K., Lahey, B. B., & Kroop, J. P. (1984). Perception of child, child-rearing values, and emotional distress as mediating links between environmental stressors and observed maternal behavior. *Child Development*, 55, 2234–2247.
- Crocker, J., & Park, L. E. (2004). The costly pursuit of self-esteem. *Psychological Bulletin*, 130, 392–414.
- Crocker, J., Sommers, S. R., & Luhtanen, R. K. (2002). Hopes dashed and dreams fulfilled: Contingencies of self-worth and graduate school admissions. *Personality and Social Psychology Bulletin*, 28, 1275–1286.
- Crocker, J., & Wolfe, C. T. (2001). Contingencies of self-worth. *Psychological Review*, 108, 593–623.
- Dawber, T., & Kuczynski, L. (1999). The question of ownness: Influence of relationship context on parental socialization strategies. *Journal of Social and Personal Relationships*, 16, 475–493.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum Press.
- Deci, E. L., & Ryan, R. M. (1995). Human autonomy: The basis for true self-esteem. In M. Kernis (Ed.), *Efficacy, agency, and self-esteem* (pp. 31–49). New York: Plenum Press.
- Deci, E. L., Spiegel, N. H., Ryan, R. M., Koestner, R., & Kauffman, M. (1982). Effects of performance standards on teaching styles: Behavior of controlling teachers. *Journal of Educational Psychology*, 74, 852–859.
- Eaton, M. M., & Pomerantz, E. M. (2004). *Parental Contingent Self-Worth Scale*. Unpublished manuscript, University of Illinois at Urbana-Champaign.
- Gray, M., & Steinberg, L. (1999). Unpacking authoritative parenting: Reassessing a multidimensional construct. *Journal of Marriage and the Family*, 61, 574–587.
- Grolnick, W. S. (2003). *The psychology of parental control: How well-meant parenting backfires*. Hillsdale, NJ: Erlbaum.
- Grolnick, W. S., Benjet, C., Kurowski, C. O., & Apostoleris, N. H. (1997). Predictors of parent involvement in children's schooling. *Journal of Educational Psychology*, 89, 538–548.
- Grolnick, W. S., & Gurland, S. T. (2002). Women and mothering: Retrospect and prospect. In J. McHale & W. S. Grolnick (Eds.), *Retrospect and prospect in the psychological study of families* (pp. 5–34). Hillsdale, NJ: Erlbaum.
- Grolnick, W. S., Gurland, S. T., DeCoursey, W., & Jacob, K. (2002). Antecedents and consequences of mothers' autonomy support: An experimental investigation. *Developmental Psychology*, 38, 143–155.
- Grolnick, W. S., Kurowski, C. O., Dunlap, K., & Hevey, C. (2000). Parental resources and the transition to junior high. *Journal of Research on Adolescence*, 10, 465–480.
- Grolnick, W. S., & Ryan, R. M. (1989). Parent styles associated with children's self-regulation and competence in school. *Journal of Educational Psychology*, 81, 143–154.
- Grolnick, W. S., & Slowiaczek, M. L. (1994). Parents' involvement in children's schooling: A multidimensional conceptualization and motivational model. *Child Development*, 65, 237–252.
- Grolnick, W. S., Weiss, L., McKenzie, L., & Wrightmen, J. (1996). Contextual, cognitive, and adolescent factors associated with parenting in adolescence. *Journal of Youth and Adolescence*, 25, 33–54.
- Harter, S. (1982). The Perceived Competence Scale for Children. *Child Development*, 53, 87–97.
- Hill, N. E., Bush, K. R., & Roosa, M. W. (2003). Parenting and family socialization strategies and children's mental health: Low-income Mexican-American and Euro-American mothers and children. *Child Development*, 74, 189–204.
- Kernis, M. H. (2003). Toward a conceptualization of optimal self-esteem. *Psychological Inquiry*, 14, 1–26.
- La Greca, A. M., & Stone, W. L. (1993). Society Anxiety Scale for Children Revised: Factor structure and concurrent validity. *Journal of Clinical Child Psychology*, 22, 17–27.
- Leung, K., Lau, S., & Lam, W. L. (1998). Parenting styles and achievement: A cross-cultural study. *Merrill-Palmer Quarterly*, 44, 157–172.
- McBride, B. A., Schoppe, S. J., & Rane, T. R. (2002). Child characteristics, parenting stress, and parental involvement: Fathers versus mothers. *Journal of Marriage and the Family*, 64, 998–1011.
- McLoyd, V. C., & Wilson, L. (1991). The strain of living poor: Parenting, social support and child mental health. In A. C. Huston (Ed.), *Children in poverty* (pp. 105–135). New York: Cambridge University Press.
- Mize, J., Petit, G. S., & Brown, E. G. (1995). Mothers' supervision of their children's peer play: Relations with beliefs, perceptions, and knowledge. *Developmental Psychology*, 31, 311–321.
- Park, L. E., & Crocker, J. (2005). Interpersonal consequences of seeking self-esteem. *Personality and Social Psychology Bulletin*, 31, 1587–1598.
- Pelletier, L. G., Ségun-Lévesque, C., & Legault, L. (2002). Pressure from above and pressure from below as determinants of teachers' motivation and teaching behaviors. *Journal of Educational Psychology*, 94, 186–196.
- Pleck, J. H. (1997). Father involvement: Levels, sources, and consequences. In M. E. Lamb (Ed.), *The role of the father in child development* (3rd ed., pp. 66–103). New York: Wiley.
- Pomerantz, E. M., & Eaton, M. M. (2001). Maternal intrusive support in the academic context: Transactional socialization processes. *Developmental Psychology*, 37, 174–186.
- Profilet, S. M., & Ladd, G. W. (1994). Do mothers' perceptions and concerns about preschoolers' peer competence predict their peer-management practices? *Social Development*, 3, 205–221.
- Ryan, R. M. (1982). Control and information in the interpersonal sphere: An extension of cognitive evaluation theory. *Journal of Personality and Social Psychology*, 43, 450–461.
- Steinberg, L., Elmen, J. D., & Mounts, N. S. (1989). Authoritative parenting, psychosocial maturity and academic success among adolescents. *Child Development*, 60, 1424–1436.
- Trivers, R. L. (1974). Parent-offspring conflict. *American Zoologist*, 14, 249–264.
- Wang, Q., & Pomerantz, E. M. (2003). *Children's inclusion of their relationships with their parents in their self-construals: Implications for children's well-being*. Unpublished manuscript.

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