

# Perceived Parental Psychological Control and Eating-Disordered Symptoms

## *Maladaptive Perfectionism as a Possible Intervening Variable*

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**Abstract:** Recent developmental theorizing conceptualizes perfectionism as a mediator of the relation between intrusive parenting and psychopathology. Research addressing this hypothesis in relation to eating disorders (EDs), however, is lacking. This case-control study (a) examined mean-level differences between ED patients and normal controls in psychologically controlling parenting and perfectionism and (b) addressed the intervening role of perfectionism in associations between psychological control and ED symptoms, distinguishing between maladaptive and relatively more adaptive types of perfectionism. Hypotheses were examined in a sample of normal controls ( $N = 85$ ) and a sample of ED patients ( $N = 60$ ). Findings indicate that ED patients and bulimics in particular show elevated levels of paternal (but not maternal) psychological control and elevated levels of maladaptive perfectionism compared with normal controls. Mediation analyses show that maladaptive perfectionism is a significant intervening variable between parental psychological control and ED symptoms. Directions for future research on controlling parenting, perfectionism, and ED are outlined.

**Key Words:** Parenting, psychological control, perfectionism, eating disorder.

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Although research has extensively addressed the role of perfectionism and family functioning in the etiology and course of eating disorders (EDs) (Polivy and Herman, 2002), the role of both etiological factors has been investigated within separate research domains. This is surprising because developmental theories explicitly assume a role for dysfunc-

tional family functioning—and controlling parenting in particular—in the development of perfectionism (Flett et al., 2002). This study aimed to test the intervening role of perfectionism in the relationship between perceived psychologically controlling parenting and ED symptoms. As such, the present study heeds recent calls to provide insight into the psychological dynamics through which family functioning is related to ED symptoms (Murray et al., 2000).

### Parental Control and Eating Disorders

The notion that disturbances in family functioning and parenting processes play a role in the development and course of ED has a long-standing tradition in research on ED (Polivy and Herman, 2002). It has been suggested that intrusive, controlling parenting is characteristic of families of adolescents with an ED (Vandereycken 1994). However, research examining relations between controlling parenting and EDs has yielded mixed results.

First, a number of studies have examined mean-level differences between ED samples and normal controls in perceived parental control. Many of these studies have relied on the overprotection scale of the Parental Bonding Instrument, (Parker et al., 1979) which measures an excessive level of parental protection. Findings have been inconsistent across ED diagnosis. Whereas a number of studies have shown that bulimic patients perceive their parents (and particularly their fathers) as more controlling compared with normal controls (Pole et al., 1988; Rorty et al., 2000), studies comparing anorexic patients and control groups have yielded a more mixed pattern of results; for a review, see Castro (2000). An important limitation of most studies is that adult patients were asked to provide a retrospective report of their parents' level of control or overprotection. To avoid the problems associated with retrospective reports, the present study sampled late adolescent ED patients and asked about their current perceptions of controlling parenting.

Second, several studies have examined whether parental control is correlated with severity of disordered eating attitudes and behaviors. Parental overprotection was found to be positively related to eating-disordered behaviors and attitudes in some studies (Murray et al., 2000) but not in others

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(Furnham and Adam-Saib, 2001). Associations between parental control and severity of ED symptoms have been examined almost exclusively within nonclinical samples (mostly students). This study examined the relation between controlling parenting and ED symptoms within both a nonclinical and a clinical sample.

Specifically, the present study focuses on perceived parental psychological control, a construct that has received considerable empirical attention in developmental research on parenting (Barber and Harmon, 2002). Psychological control refers to parental behaviors that intrude upon children's thoughts and feelings and has been characterized as typical of parents who excessively use manipulative parenting techniques such as guilt induction and love withdrawal, i.e., making parental attention and care contingent upon the child's compliance to parental demands (Barber, 1996). Concurrent and longitudinal studies among nonclinical samples have consistently shown that perceptions of psychological control predict children's and adolescents' internalizing problems, including depression, low self-worth, and anxiety; for a review, see Barber and Harmon (2002).

Although controlling parenting is thought to be implicated in the development of EDs and although psychological control is consistently related to internalizing problems in general, the present study is the first to specifically examine perceived psychological control in relation to ED symptoms. This study is aimed at (a) examining mean-level differences in perceived parental psychological control between a sample of normal controls and a sample of late adolescents with an ED, and (b) assessing associations between psychological control and severity of ED symptoms within both samples. In line with extant research, we expected that the size of direct associations between controlling parenting and ED symptoms, if any, would be modest. However, this does not preclude the possibility that controlling parenting represents a distal factor that is only indirectly related to ED symptoms through its association with a more proximal psychological process involved in the development of EDs (Murray et al., 2000). Specifically, this study examined perfectionism as a possible intervening variable in associations between perceived parental psychological control and ED symptoms.

## **Perfectionism and Eating Disorders**

Perfectionism is conceptualized as a complex and multidimensional construct (Frost et al., 1990) comprising maladaptive and relatively more adaptive dimensions. Central to perfectionism is the setting of high personal standards for performance and achievement (Shafran et al., 2002). An adherence to high personal standards may be relatively adaptive, as this quality may foster positive, goal-oriented strivings. However, the setting of high personal standards is often accompanied by more maladaptive features such as negative self-evaluative tendencies (Frost et al., 1990). Maladaptive perfectionists are overly concerned about making mistakes when trying to attain their personal standards and they pervasively doubt everyday decisions and behaviors. These negative self-evaluations would render them vulnerable to maladjustment in general and to internalizing problems in particular (Dunkley et al., 2006; Shafran et al., 2002). Recent

research has confirmed the validity of a distinction between maladaptive and relatively more adaptive forms of perfectionism. It has been found, for instance, that the scales of the Frost Multidimensional Perfectionism Scale (Frost et al., 1990)—one of the most widely used instruments in research on perfectionism—can be represented by 2 higher-order factors: positive striving or adaptive perfectionism (marked by the Personal Standards scale) and evaluative concerns or maladaptive perfectionism, marked by the Doubts about Actions and the Concern Over Mistakes scales, e.g., Dunkley et al. (2006).

Diverse theoretical formulations suggest a central role for perfectionism and maladaptive perfectionism in particular in the etiology and course of EDs (Shafran et al., 2002). Common to different theoretical accounts is the idea that maladaptive perfectionists are prone to develop a rigid focus on eating and thinness as a means to compensate for the pervasive sense of incompetence and lack of control that they experience in life. Driven by concerns about being unable to meet standards for ideal body weight, maladaptive perfectionists would continuously increase their norms for ideal body weight, thereby engaging in an escalating pattern of disordered eating behaviors (Shafran et al., 2002).

Research has generally confirmed the role of perfectionism in EDs, although studies often did not distinguish between maladaptive and (relatively more) adaptive perfectionism. ED patients demonstrate elevated levels of perfectionism compared with both normal controls and general psychiatric samples (Bulik et al., 2003; Halmi et al., 2000) and studies in nonclinical populations have documented an association between diverse components of perfectionism and ED symptoms (Flett et al., 1995). In the present study, it was expected that normal controls and ED patients would be most strongly distinguished on the basis of maladaptive perfectionism and that the latter would be more strongly related to severity of ED symptoms than adaptive perfectionism.

## **Perfectionism as an Intervening Variable in Relations Between Psychological Control and ED Symptoms**

To date, ED research has not examined perfectionism as an intervening variable in associations between perceived parental control and ED symptoms. This is surprising because diverse theories about the origins of perfectionism propose that controlling parenting may foster perfectionist concerns (Flett et al., 2002). Psychologically controlling parents would convey the message to their children that failure is unacceptable and that parental love is dependent upon the extent to which certain standards and norms are met, a message that if adopted, is likely to set the stage for a (maladaptive) perfectionist orientation (Flett et al., 2002; Frost et al., 1990). Exposed to psychologically controlling parents, adolescents would conditionally approve their own behavior and criticize themselves with feelings of guilt and inferiority when failing to attain their standards for perfectionism. A maladaptive perfectionist orientation would, in turn, create a vulnerability to disordered eating behaviors and attitudes and psychologically controlling parenting may thus be indirectly related

**TABLE 1.** Means and Standard Deviations by Group

Variable	Group			F (2, 128)	$\eta^2$
	Control Group	Anorexia Nervosa-R	Bulimia Nervosa		
Psychological control					
Psychological control father	2.04 (0.81) <sub>b</sub>	2.41 (0.97) <sub>ab</sub>	2.74 (1.05) <sub>a</sub>	5.77**	0.08
Psychological control mother	2.09 (0.79)	2.23 (1.01)	2.45 (1.06)	1.40	0.02
Perfectionism					
Adaptive perfectionism	2.80 (0.61) <sub>c</sub>	3.99 (0.72) <sub>a</sub>	3.56 (0.71) <sub>b</sub>	39.88***	0.38
Maladaptive perfectionism	2.39 (0.66) <sub>b</sub>	3.82 (0.69) <sub>a</sub>	3.51 (0.86) <sub>a</sub>	55.08***	0.46
Eating disorder symptoms					
Drive for thinness	2.39 (4.30) <sub>b</sub>	14.03 (5.61) <sub>a</sub>	14.81 (5.65) <sub>a</sub>	94.96***	0.60
Bulimia	0.82 (2.31) <sub>b</sub>	1.19 (3.08) <sub>b</sub>	13.38 (5.09) <sub>a</sub>	143.71***	0.69
Body dissatisfaction	7.80 (6.47) <sub>c</sub>	15.68 (8.29) <sub>b</sub>	20.48 (6.95) <sub>a</sub>	33.66***	0.35

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ . Means with a different subscript are significantly different from one another.

to ED symptoms through the effect of (maladaptive) perfectionism.

Consistent with these hypotheses, studies have evidenced a positive relationship between perceived controlling parenting and perfectionism (Enns et al., 2000). Particularly relevant for the present research, Soenens et al., (2005b) found that maladaptive perfectionism accounted for the associations between psychological control and adolescents' self-esteem and depression. No study to date, however, has examined the role of perfectionism as an intervening variable in relations between parental psychological control and ED symptoms.

### Hypotheses of the Present Study

We formulated the following hypotheses: (a) Perceptions of parental psychological control will relate positively to maladaptive (but not adaptive) perfectionism and to ED symptoms, (b) maladaptive (but not adaptive) perfectionism will relate positively to severity of ED symptoms, and (c) maladaptive perfectionism represents an intervening variable between perceptions of parental psychological control and ED symptoms. Hypotheses were tested in a clinical sample of restricting anorexia nervosa patients and bulimia nervosa (BN) patients and in a sample of normal controls. On the basis of the extant literature, it was hypothesized that, despite of mean-level differences on some of the study variables (e.g., with ED patients reporting higher perfectionism than controls), associations between the study constructs would be consistent across groups.

## METHODS

### Participants

The ED sample consisted of 60 late-adolescent women admitted to a specialized inpatient treatment unit for eating disorders. Patients were diagnosed according to DSM-IV criteria (American Psychiatric Association, 1994) on the basis of a standardized interview and questionnaire (Eating Disorders Evaluation Scale) (Vandereycken, 1993). Between 2003 and 2005, all patients meeting diagnostic criteria for ED, excluding any major comorbidity, were invited to par-

ticipate in a research project on parent-child relationships, personality, and motivation for treatment. The sample used in this report was drawn from this larger study that originally involved 127 ED patients. As the primary aim of this article was to examine family processes, we selected only those patients who were still living with at least one of their parents. In the remaining sample, 37 patients were diagnosed as anorexia nervosa, restrictive type (AN-R); 6 as anorexia nervosa, bingeing-purging type (AN-BP); 23 as BN, and 15 as eating disorder not otherwise specified (EDNOS). Because 2 of the diagnostic subgroups (AN-BP and EDNOS) were too small to be considered separately in statistical analyses, these patient samples were also excluded in this study. The higher number of restrictive AN is understandable because in these cases severe underweight is more often the indication for hospitalization. The final number of ED patients included in the analyses was 60 (37 AN-R and 23 BN). The diagnosis assigned to the patients in this sample was externally validated by examining their scores on the 3 scales tapping disordered eating attitudes and behaviors of the Eating Disorder Inventory-II (EDI-II) (Garner, 1991). As shown in Table 1, patients diagnosed as AN-R and BN did not differ in their level of drive for thinness but they did differ in their level of bulimia. As expected, BN patients displayed higher bulimia scores than did AN-R patients. The age of the ED sample ranged from 15 to 25 with a mean of 19 years and 11 months, and no significant age differences were found between AN-R patients and BN patients ( $t(59) = -0.75, p > 0.05$ ). Seventy-two percent of the patients came from intact families, 25% had divorced parents, and 2% came from a family in which one of the parents had deceased.

The control sample consisted of 85 female late-adolescent psychology students from a Belgian university. These participants were also selected from a larger sample ( $N = 100$ ) on the basis of their living situation. All participants were living at home with at least one of their parents. Mean age of the ED sample ranged from 17 to 25 with a mean of 19 years. Eighty-one percent of the patients came from intact married families, 14% had divorced parents, and 5% came from a family in which one of the parents had deceased.

The ED sample and the control sample did not significantly differ on relevant demographic variables such as gender (all participants were female), living situation (i.e., living with both parents together or with one of the parents;  $\chi^2(2) = 4.59; p > 0.05$ ), age ( $t(142) = -1.91; p > 0.05$ ), years of education ( $t(140) = 1.79; p > 0.05$ ), and parental marital status (i.e., married vs. divorced vs. one of the parents deceased;  $\chi^2(3) = 6.35; p > 0.05$ ).

## Procedure

ED patients completed part of their questionnaires as a part of the routine assessment at admission. This part (including the EDI-II) was administered on a computer. The other part of the questionnaires was administered in paper-and-pencil format and patients filled out these questionnaires in their room. Control group participants completed their questionnaires during a collective testing session and received course credit for their participation. For all participants, participation was voluntary and anonymity was guaranteed. All participants—and in case of minors, their parents—gave written informed consent. The study was approved by the university Institutional Review Board and by the Ethical Committee of the hospital concerned.

## Measures

All questionnaires were translated into Dutch, the participants' mother tongue, according to the guidelines of the International Test Commission (Hambleton, 1994). Unless otherwise indicated, items were scored on 5-point Likert scales, ranging from 1 (strongly disagree) to 5 (strongly agree).

## Psychological Control

Participants completed a 7-item psychological control scale which was derived from the Children's Report on Parent Behavior Inventory (Schaefer, 1965). This scale has been used and validated in studies with nonclinical samples (Soenens et al., 2005a, 2005b). For instance, it has been shown that this scale is correlated in theoretically predicted ways with the parenting dimensions of support and behavioral control (Soenens et al., 2005b) and that there is substantial convergence ( $r > 0.30$ ) between parent-reported and child-reported scores on this psychological control scale (Soenens et al., 2005a). Participants rated the items for mother and father separately. A sample item reads: "My mother or father is less friendly to me if I don't see things like she or he does." Cronbach alphas were 0.87 and 0.89 for paternal and maternal ratings of psychological control in the ED sample, respectively, and 0.87 and 0.87 in the control group, respectively.

## Perfectionism

Participants completed 3 scales from the Multidimensional Perfectionism Scale (Frost et al., 1990), namely the Concern Over Mistakes scale (9 items, e.g., "People will probably think less of me if I make a mistake"), the Doubts about Actions scale (4 items, e.g., "Even when I do something very carefully, I often feel that is not quite right"), and the Personal Standards scale (7 items, e.g., "I set higher goals

for myself than most people"). Previous factor-analytical studies have shown that items from the Concern Over Mistakes and the Doubts about Actions scales load together on a single factor that has been labeled "maladaptive perfectionism" or "evaluative concerns perfectionism," whereas the items of the Personal Standards load together on a separate factor labeled "adaptive perfectionism" or "positive striving perfectionism" (Dunkley et al., 2006). To assess the validity of the distinction between both types of perfectionism in the present sample, a principal components analysis (PCA) was performed on the items of the 3 perfectionism scales. To obtain a stable factor structure, PCA was performed on the combined sample of ED patients and normal controls. PCA showed 2 components with an eigenvalue larger than 1. Inspection of the scree-plot also showed that the first 2 components explained the largest part of the variance. After oblique rotation (PROMAX), the 2 components together explained 57% of the variance. All items from the Doubts about Actions scale and all but one of the items from the Concern Over Mistakes scale loaded substantially ( $>0.40$ ) on the first component. All Personal Standards item loaded substantially on the second component. Only 1 item had a significant cross-loading. In sum, consistent with past research, this PCA clearly supported a distinction between 2 dimensions of perfectionism. Accordingly, the items of the Concern Over Mistakes and Doubts about Actions scales were averaged to form an index of maladaptive perfectionism and the items of the Personal Standards scale were averaged to form an index of adaptive perfectionism [this approach has been described by Dunkley et al. (2006) and Soenens et al. (2005a)]. Cronbach alpha was 0.90 and 0.88 for maladaptive perfectionism in the ED sample and the control group, respectively, and 0.80 and 0.83 for adaptive perfectionism in the ED sample and the control group, respectively.

## ED Symptoms

Participants completed the Dutch version (Van Strien, 2002) of the EDI-II (Garner, 1991), a 64-item questionnaire tapping psychological characteristics and symptoms relevant to eating disorders. The EDI consists of 8 subscales assessing both eating attitudes and related ego dysfunction characteristics but for the purpose of the present study, only the 3 subscales measuring eating attitudes (i.e., drive for thinness, bulimia, and body dissatisfaction) were used. Participants rated how much each item applied to them on a scale ranging from 1 (never) to 6 (always). Scale scores are calculated such that higher scores represent higher levels of eating-related psychopathology. Information on the validity and psychometric characteristics of the EDI-II is provided in Garner (1991).

## RESULTS

Data analysis proceeded in 3 steps. First, we examined mean-level differences in the study variables between the control group and the 2 groups of ED patients (AN-R and BN). Second, correlations were computed between the study variables in the control group and the group of ED patients. Third, mediation analyses were performed to examine the role of perfectionism as an intervening variable in associations between parental psychological control and ED symptoms.

## Mean-Level Differences in Psychological Control and Perfectionism

By means of univariate analysis of variance (ANOVAs), the 3 groups (normal controls, AN-R, and BN) were compared in their perceptions of psychological control and in their levels of adaptive and maladaptive perfectionism. Table 1 shows the results of this analysis. The groups differed significantly in paternal psychological control. Subsequent post hoc Tukey tests revealed that bulimic individuals perceived their fathers as higher in psychological control than normal controls. The mean rating of paternal psychological control in the AN-R group was in between these 2 groups but did not significantly differ from either the BN group or the control group. By contrast, no significant difference was found for ratings of maternal psychological control.

Next, the 3 groups were found to differ significantly with respect to both types of perfectionism. Post hoc Tukey analyses showed that control group subjects scored significantly lower than the 2 ED groups on both adaptive and maladaptive perfectionism. In addition, whereas the AN-R patients and the BN patients did not differ in maladaptive perfectionism, AN-R patients were higher in adaptive perfectionism than BN patients. Because we hypothesized that the groups would be more strongly differentiated on the basis of maladaptive perfectionism than on the basis of adaptive perfectionism, an additional set of ANOVAs was conducted. To control for the variance shared by maladaptive and adaptive perfectionism, residual scores were calculated for each component, parsing out the variance shared with the other component. The ANOVAs were run again with these residual scores as dependent variables. It was found that whereas differences between groups in maladaptive perfectionism (controlled for adaptive perfectionism) were still significant ( $F(2, 142) = 12.27; p < 0.001$ ), groups no longer differed in adaptive perfectionism after controlling for maladaptive perfectionism ( $F(2, 142) = 1.74; p > 0.05$ ), indicating that normal controls were differentiated from ED patients on the basis of maladaptive perfectionism and not on the basis of adaptive perfectionism.

## Correlational Analyses

The Pearson Product Moment correlations among the study variables are presented in Table 2. Correlations were computed separately for the control group (below diagonal) and the ED group (above diagonal). Because preliminary

analyses did not reveal significant differences in associations among the study variables between AN-R patients and BN patients and to increase statistical power, correlations were computed for both ED groups together.

As expected, paternal psychological control and maternal psychological control were positively related to maladaptive perfectionism in the clinical and control samples. In contrast, ratings of psychological control were unrelated to adaptive perfectionism, although the positive association between paternal psychological control and adaptive perfectionism in the control group was an exception. Further, paternal psychological control was positively related to each of the ED symptoms in the control group and to bulimia in the ED group. Maternal psychological control, by contrast, was not significantly related to any of the ED symptoms in any of the groups. Maladaptive perfectionism was positively correlated with drive for thinness and body dissatisfaction in both samples. The correlation between maladaptive perfectionism and bulimia only obtained significance in the control group. Adaptive perfectionism was unrelated to any of the ED symptoms. In the ED sample, a significantly negative association between adaptive perfectionism and bulimia even emerged.

## Mediation Analyses

As the correlations reported in the preceding paragraph demonstrate that ratings of psychological control were only systematically related to maladaptive (but not adaptive) perfectionism and as only maladaptive perfectionism was positively related to the ED outcomes, we only considered maladaptive perfectionism as a possible intervening variable in associations between perceived parental psychological control and the ED symptoms.

The intervening role of maladaptive perfectionism was examined by means of regression analyses using a 4-step procedure (Kenny et al., 1998). Step 1 involves determining the magnitude of the path from the independent variable (psychological control) to the dependent variables (drive for thinness, bulimia, and body dissatisfaction). Step 2 requires finding a significant path from the independent to the intervening variable (maladaptive perfectionism). Step 3 requires finding a significant path from the intervening to the dependent variable, controlling for the independent variable. Finally, in Step 4, the decrease in the path from the independent

**TABLE 2.** Correlations Among Study Variables

Measure	1	2	3	4	5	6	7
Psychological control father	—	0.36**	0.02	0.25*	-0.03	0.31*	0.20
Psychological control mother	0.51***	—	0.09	0.32*	0.03	0.10	0.18
Adaptive perfectionism	0.21*	0.16	—	0.62***	0.23	-0.34*	0.05
Maladaptive perfectionism	0.43***	0.24*	0.44***	—	0.33*	-0.13	0.28*
Drive for thinness	0.31**	0.07	0.16	0.60***	—	0.17	0.57***
Bulimia	0.24*	0.11	0.15	0.38***	0.72***	—	0.33*
Body dissatisfaction	0.27*	0.02	0.04	0.35***	0.67***	0.47***	—

Control group below and ED group above the diagonal.  
\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .

to the dependent variables after controlling for the intervening variable is inspected.

Mediation is shown (a) when an initially significant path in Step 1 is reduced to nonsignificance in step 4 and (b) when both indirect paths in step 2 (independent variable to intervening variable) and step 3 (intervening variable to dependent variable) are significant. However, even in the absence of a significant direct path in step 1, an independent variable may still be indirectly related to a dependent variable through its effect on the intervening variable (MacKinnon et al., 2002). Such an indirect effect would be evidenced when both the paths in step 2 and step 3 are significant and when the total indirect effect of the independent variable on the dependent variable through the intervening variable is significant. To assess the significance of these indirect effects, MacKinnon et al.'s. (2002) *z'* test was computed. Analyses within the ED group controlled for mean-level differences between the 2 diagnostic categories (AN-R and BN) and for interactions between diagnostic group and each of the predictors in the equation. Interaction terms were created by multiplying centered variables. None of the interaction terms reached significance (all *p* values >0.05), indicating that associations between psychological control, perfectionism, and the ED symptoms were similar for AN-R patients and BN patients.

As shown in Table 3, paternal psychological control had a significant initial effect on each of the ED outcomes in the control group. Each of these 3 initial effects was reduced to nonsignificance after entering maladaptive perfectionism as an intervening variable. Moreover, all indirect effects of paternal psychological control over maladaptive perfectionism to these 3 ED outcomes were significant, suggesting full mediation. In the ED sample, paternal psychological control was not directly related to 2 of the ED outcomes (i.e., drive for thinness and body dissatisfaction). Despite this, paternal psychological control was significantly indirectly related to

these outcomes through its effect on maladaptive perfectionism. Paternal psychological control did not show a mediated or indirect effect on bulimia in the ED group, due to the nonsignificant association between maladaptive perfectionism and bulimia.

Maternal psychological control did not show any significant direct effect on the ED outcomes in either of the samples (see step 1 in Table 3). Despite this, maternal psychological control was significantly indirectly related to each of the ED outcomes through its effect on maladaptive perfectionism, with one exception. As with the paternal ratings, maternal psychological control was not indirectly related to bulimia in the ED sample because maladaptive perfectionism did not predict bulimia in that sample.

## DISCUSSION

Developmental theory suggests that intrusive, controlling parenting creates a vulnerability to psychopathology through the development of a perfectionist orientation. Although research has yielded evidence for the intervening role of perfectionism in associations between parental control and internalizing problems in general (Enns et al., 2000; Soenens et al., 2005b), this hypothesis has not been fully addressed in research on eating disorders. The aim of the present study, therefore, was to examine both perceived parental psychological control and perfectionism in relation to ED symptomatology.

### Major Findings

First, a significant difference was found between women with an ED and noneating-disordered women in their perceptions of paternal (but not maternal) psychological control. These mean-level differences in parental psychological control only applied to the BN group; the group of patients

**TABLE 3.** Regression Analyses Testing the Intervening Role of Maladaptive Perfectionism Between ED Symptoms on the One Hand and Paternal Psychological Control or Maternal Psychological Control on the Other

Dependent Variable	Sample	Step 1	Step 2	Step 3	Step 4	<i>z'</i>
Paternal psychological control						
Drive for thinness	Control	0.31**	0.43***	0.51***	0.06	3.27***
	ED	-0.05	0.31**	0.40**	-0.15	2.10*
Bulimia	Control	0.24*	0.43***	0.35**	0.09	2.31*
	ED	0.18*	0.31**	-0.01	0.18*	-0.53
Body dissatisfaction	Control	0.27*	0.43***	0.30**	0.14	1.80*
	ED	0.16	0.31**	0.33**	0.07	1.77*
Maternal psychological control						
Drive for thinness	Control	0.07	0.24*	0.63***	-0.09	2.15*
	ED	0.02	0.35**	0.39**	-0.10	2.29**
Bulimia	Control	0.11	0.24*	0.38***	0.02	1.92*
	ED	0.01	0.35**	0.04	-0.01	0.30
Body dissatisfaction	Control	0.02	0.24*	0.37***	-0.07	1.92*
	ED	0.15	0.35**	0.34*	0.05	1.97*

Step 1 indicates path from independent (psychological control) to dependent variable; Step 2, path from independent to mediating variable (maladaptive perfectionism); Step 3, path from mediating to dependent variable (controlling for the independent variable); Step 4, path from independent to dependent variable (controlling for the mediator); *z'*, test of the indirect effect.

\**p* < 0.05, \*\**p* < 0.01, \*\*\**p* < 0.001.

with anorexia nervosa of the restrictive type (AN-R) fell in between the BN group and the normal control group but did not differ significantly from either of both groups in their ratings of paternal psychological control. This finding is in line with previous research evidencing only small or nonsignificant differences in perceptions of parental rearing between anorexia patients and normal controls [see Castro (2000) and Vandereycken (1994)]. It is unclear from such findings, however, whether the relative lack of differences between AN-R patients and normal controls implies that paternal control is a less important factor in the development of AN-R (compared with, for instance, BN) or whether this is due to higher levels of response bias and self-presentational responding in AN-R patients. It has been noted that anorexic patients in particular have a tendency to deny their problems and to idealize their family (Vandereycken, 1994), a tendency which may mask true underlying issues with parental control and intrusiveness. Future research may examine this possibility by adequately controlling for response bias and denial tendencies or by adopting a multiple-informants approach in assessing parenting processes.

Second, several significant positive associations were found between paternal psychological control and severity of ED symptoms, although these associations were more pronounced in the control group compared with the ED group. Together, these findings add to previous research documenting positive correlations between controlling parenting and ED symptoms (Murray et al., 2000). These findings also add to the literature on psychological control because this is the first study to demonstrate an association between psychological control and ED symptoms.

Contrary to the findings with paternal psychological control, correlations between maternal psychological control and ED symptoms were generally not significant. The lack of mean-level differences in maternal psychological control and the lack of direct effects of maternal psychological control on ED symptoms compared with the significant findings for paternal psychological control is remarkable, but nevertheless in line with various previous studies which found that paternal control more strongly differentiates among normal controls and ED patients than does maternal control (Pole et al, 1988). Evidently, this does not mean that maternal parenting is not involved in the etiology of EDs. Other dimensions of the mother-child relationship may be more directly relevant to ED outcomes. In a review by Vandereycken (1994), for instance, it was concluded that ED patients perceive their mothers as primarily low on care. Moreover, as will be outlined in the following sections, maternal psychological control may still indirectly relate to ED-related attitudes and behaviors through its relation with maladaptive perfectionism.

Third, this study underscores the usefulness of considering perfectionism as a multidimensional construct. It was found that ED patients and normal controls primarily differed on maladaptive perfectionism, but not on adaptive perfectionism. After controlling for the variance shared by adaptive and maladaptive perfectionism, only maladaptive perfectionism was found to discriminate between the control group and the ED samples. This finding suggests that the negative self-

evaluative concerns involved in a perfectionist orientation, rather than the setting of high personal standards as such, may be the driving psychopathological force in the development of an eating disorder. This finding further attests to the validity of a distinction between maladaptive and relatively more adaptive types of perfectionism and confirms clinical descriptions of ED patients as being primarily characterized by elevated levels of maladaptive perfectionist self-evaluative concerns (Shafran et al., 2002).

The usefulness of differentiating between these 2 types of perfectionism was also evidenced in the finding that psychological control was significantly related to maladaptive perfectionism in both samples but not to adaptive perfectionism. This pattern of findings replicates earlier findings (Soenens et al., 2005b) and indicates that conditionally approving and guilt-inducing parenting is primarily related to adolescents' maladaptive self-evaluative concerns, involving conditional approval of oneself and continuous concerns about whether norms and standards for behavior are met.

Despite the apparent usefulness of a distinction between maladaptive and adaptive perfectionism, we would like to caution that the term "adaptive" perfectionism might be somewhat misleading because this component generally did not relate significantly negatively to the ED outcomes. Thus, these results suggest that although adaptive perfectionism does not represent a risk factor for eating disordered psychopathology, it also does not substantially protect against such psychopathology. Furthermore, this study, along with other studies (Dunkley et al., 2006; Soenens et al., 2005b), shows that there is a substantial positive correlation between both components of perfectionism, suggesting that people who set high personal to themselves (i.e., "adaptive" perfectionism), on average, tend to simultaneously engage in negative self-evaluative processes including fear of failure and relentless doubts about one's behavior (i.e., "maladaptive" perfectionism). The possibility therefore exists that an adherence to high personal standards could give rise to the processes involved in maladaptive perfectionism across time.

Finally, and most importantly, mediation analyses demonstrated that maladaptive perfectionism either fully mediated direct linkages between psychological control and ED symptoms (which was primarily the case for ratings of paternal psychological control) or indirectly established an association between psychological control and ED symptoms (which was primarily the case for ratings of maternal psychological control). Although the precise direction of causality cannot be inferred from the current cross-sectional study, our findings are in line with the idea that psychologically controlling parenting carries over into a strong drive for thinness and a negative evaluation of one's appearance (i.e., body dissatisfaction) because it sets up the dynamics of a maladaptive perfectionist orientation.

There was one notable exception to the general pattern of findings, that is, maladaptive perfectionism did not play a significant intervening role in associations between psychological control and bulimia in the ED samples, which was due to a lack of association between maladaptive perfectionism and bulimia in the ED group. Although not anticipated, the

finding that maladaptive perfectionism was less strongly related to bulimia than to drive for thinness and body dissatisfaction meshes with theory and research suggesting that bulimic symptoms are more closely tied to undercontrolled characteristics such as impulsiveness and emotional dysregulation than to overcontrolled personality features such as restrictiveness and desire for control (Westen and Harnden-Fischer, 2001). As perfectionism primarily involves overcontrolled rather than undercontrolled characteristics, it is not surprising to find that it is less substantially associated with bulimia. Further research is needed to address this possibility.

### LIMITATIONS

The present study represents a first and preliminary test of the intervening role of perfectionism in associations between psychological control and ED symptoms. It shows a number of shortcomings that need to be addressed in future research. First, the control group in this study was made up of normal controls. As such, our findings cannot speak to whether the variables identified are specifically related to EDs or if they are general correlates of psychopathology. Extant evidence suggests that, whereas perfectionism is quite specifically related to EDs (Halmi et al., 2000), controlling parenting represents a nonspecific risk factor to psychopathology in general (Vandereycken, 1994). Given the scarcity of research on this issue, additional studies are strongly needed.

Second, like most other studies on parenting, perfectionism, and ED, this study relied on a self-report instrument to assess parental behavior. This method may invoke response bias (e.g., idealization, denial, or social desirability) and scores obtained from this method may be distorted by participants' functioning at the time of assessment. Future research would do well to include independent assessments of the parenting constructs, for instance, by relying on parent reports or behavioral observations of parent-child relationships.

Third, although socialization research typically assumes that parenting exerts an influence on adolescents' functioning and vulnerability to psychopathology, this direction of effects could not be adequately tested in this cross-sectional study. For instance, people with a temperamental vulnerability to ED (e.g., through hereditary processes) may elicit more psychological control from their parents. As such, the present study provides only a first and preliminary test of the hypothesized sequence of events leading from psychological control to ED symptoms. An important aim for future (longitudinal) research is to address the question of direction of effects in relations between controlling parenting and ED symptoms.

### Practical Implications

Research has shown that controlling parenting negatively affects therapeutic outcomes in ED patients (Castro, 2000). Conversely, it has been shown that family-based interventions such as the Maudsley method effectively reduce controlling and critical parent-child interactions and ED symptoms (Eisler et al., 1997). Among other things, the

Maudsley method encourages parents to become involved in their children's nutritional needs without being controlling, that is, without criticizing and blaming; see Lock et al. (2001). It may thus be important to incorporate developmental experiences of controlling parenting into the therapeutic process. Specifically, by illuminating how parenting experiences relate to the development and maintenance of maladaptive perfectionist cognitions, patients may become more aware of the origins of their personal functioning. This awareness may be directly helpful during the therapeutic process itself. Moreover, continued parental control at home may negate the therapist's efforts to decrease maladaptive perfectionist thinking and, as such, indirectly hinder therapeutic effectiveness in reducing ED symptoms. Interventions targeting controlling parenting may help to prevent patients from relapsing into their old patterns of perfectionist functioning in the long run and such a reduction of rigid and perfectionist thinking may, in turn, reduce individuals' susceptibility to EDs (Shafran et al., 2002).

### CONCLUSION

This study showed that paternal but not maternal perceived psychological control is significantly related to ED symptoms and ED diagnosis. More importantly, it was found that paternal psychological control and maternal psychological control are indirectly related to ED symptoms through their relation with maladaptive perfectionism. These findings are in line with a hypothesized sequence of events assuming that intrusive and conditionally approving parenting carries over into ED symptoms through the development of perfectionist and self-evaluative processes.

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