

The Intergenerational Transmission of Perfectionism: Parents' Psychological Control as an Intervening Variable

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The present study investigated the role of parental (adaptive and maladaptive) intrapersonal perfectionism as a predictor of parental psychological control and the role of parents' psychological control in the intergenerational transmission of perfectionism in a sample of female late adolescents and their parents. First, parental maladaptive perfectionism, but not parental adaptive perfectionism, significantly predicted parents' psychological control even when controlling for parents' neuroticism. This relationship was found to be stronger for fathers than for mothers. Second, a significant direct relationship was found between mothers' and daughters' maladaptive perfectionism but not between fathers' and daughters' maladaptive perfectionism. Third, process analyses showed that, for both mothers and fathers, psychological control is an intervening variable in the relationship between parents' and daughters' maladaptive perfectionism.

Keywords: parenting, psychological control, perfectionism, intergenerational transmission

Research using a variety of designs and target populations has indicated that parental psychological control has deleterious effects on children (Barber & Harmon, 2002). An important question to be raised, then, is why some parents are more likely than others to engage in psychologically controlling parenting. In the present study, it was proposed that parents' perfectionism may be an important predictor of their use of psychological control. Moreover, if it were true that perfectionistic parents tend to use more psychological control, the next question would be whether perfectionistic parents pass their perfectionistic self-representations on to their adolescent children through the use of psychological control. Hence, the present study also examined whether psychological control plays a role in the transmission of perfectionism from parents to children.

Psychological Control and Parental Perfectionism

Psychological control refers to a rearing style used by parents who are primarily focused on their own psycholog-

ical needs and emotional problems and on their authority position in the relationship with the child (Barber, 1996). Parents who use psychological control pressure their children to comply with their personal standards through the excessive use of techniques such as guilt induction and love withdrawal (Barber, 1996; Schaefer, 1965). Because psychologically controlling parents are thought to inhibit their children's autonomy, this parenting dimension can be expected to have particularly detrimental consequences during late adolescence, an age period defined by increasing autonomy. Recent research has indeed demonstrated that parents' psychological control is associated with a host of negative outcomes in late adolescents, including depression, low self-esteem, maladaptive guilt, anxiety, withdrawn behavior, and externalization of behavioral problems (Barber & Harmon, 2002). These relationships have been shown to remain significant even when controlling for the effects of two protective parenting style dimensions, namely, parental behavioral control (i.e., an adaptive form of control aimed at guiding and supervising the child's behavior that protects the child against behavioral problems) and parental responsiveness (i.e., the level of parental warmth or secure attachment to the child; Barber, 1996; Soucy & Larose, 2000).

Given the negative developmental consequences of parents' psychological control, it is clearly important to study its antecedents. Surprisingly, to date, only a few studies have addressed this issue (see Barber, Bean, & Erickson, 2002). It has been shown, for instance, that psychological control is predicted by interparental hostility (Stone, Buehler, & Barber, 2002) and early externalizing behaviors exhibited by the child (Pettit, Laird, Dodge, Bates, & Criss, 2001). None of these studies, however, has examined dif-

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ferences in intraindividual characteristics of parents as antecedents of their use of psychological control. Given the fact that parents who use psychological control are primarily preoccupied with their own needs and standards, Barber et al. (2002) have urged greater attention to the role of parental resources and parental personality characteristics in research on the development of psychological control. In the present study, parental perfectionism was investigated as a predictor of parents' use of psychological control.

In recent research, perfectionism has been conceptualized as a multidimensional personality trait comprising both adaptive and maladaptive components (Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991). Maladaptive perfectionism has been defined as the tendency to pursue personally demanding standards despite adverse consequences. Maladaptive perfectionists have excessively high standards to which they rigidly adhere, they strive for their goals by fear of failure rather than a need for achievement, and they engage in overly critical self-evaluations (Frost et al., 1990). In contrast, it has been argued by Hamachek (1978) that perfectionism can be normal or adaptive and that the striving associated with the adherence to high personal standards may lead to positive adjustment.

Given our interest in the intraindividual characteristics of parents, we focused on intrapersonal perfectionism in the present study. Frost et al. (1990) have made a distinction between two maladaptive intrapersonal components of perfectionism and one adaptive intrapersonal component of perfectionism. The concern over mistakes and the doubts about actions dimensions reflect maladaptive and self-evaluative perfectionistic concerns. The personal standards dimension, in contrast, is conceptualized as an indicator of the more adaptive strivings that can be associated with perfectionism. In recent factor analyses, the Concern Over Mistakes and the Doubts About Actions scales were shown to load on a maladaptive perfectionism factor, which was associated with low psychosocial adjustment (e.g., Bieling, Israeli, & Antony, 2004). In contrast, the Personal Standards scale loaded on a factor labeled adaptive perfectionism, which was either unrelated or positively related to individuals' adjustment (Bieling et al., 2004).

In the present study, it was hypothesized that parents' perfectionism and, in particular, their level of maladaptive perfectionism would predict their use of psychological control. In contrast to adaptive perfectionists, maladaptive perfectionistic individuals are overly concerned about their personal standards, often at the expense of the development of mature, mutually satisfying relationships with others (Blatt, 1995; Frost et al., 1990). Given this rigid and inflexible focus on the achievement of their standards, maladaptive perfectionistic parents would be expected to be less attuned to their children's behavior. Moreover, maladaptive perfectionists typically engage in harsh and critical self-evaluations, which result in the feeling of having failed to live up to expectations (Blatt, 1995). Together with this constant self-scrutiny, they demand that others also meet their exaggerated and unrealistic standards (Hewitt & Flett, 1991). Hence, maladaptive perfectionistic parents may project the wishes and norms that they feel unable to

achieve themselves onto their children, critically evaluating the behaviors of their children and inducing guilt when norms are not met. Therefore, maladaptive perfectionistic parents would be expected to engage in conditional approval or psychological control in child rearing.

Although this hypothesis had not yet been directly tested, some evidence supporting our reasoning had been obtained in studies on the interpersonal styles that are associated with perfectionism. Maladaptive perfectionism in men has been found to be related to dominant and hostile interpersonal styles, which include problems with control, manipulation, suspicion, and lack of empathy (Habke & Flynn, 2002). It is clear that these interpersonal problems, when applied to the parent-child context, are characteristic of psychological control. Maladaptive perfectionism in women, however, has been found to be more strongly related to submissive interpersonal traits (Habke & Flynn, 2002), suggesting that the interpersonal manifestations of perfectionism differ for men and women: Whereas perfectionistic men engage in a domineering interpersonal style, perfectionistic women engage in a more submissive interpersonal style. Hence, it was hypothesized that maladaptive perfectionism might be more strongly related to paternal psychological control than to maternal psychological control.

In our research, we aimed to examine whether parental maladaptive perfectionism adds to the prediction of parents' use of psychological control over and above the effect of parental neuroticism. Parental neuroticism has been consistently linked to less competent and less optimal parenting (Belsky & Barends, 2002). Moreover, positive correlations have been reported between perfectionism and neuroticism (Stumpf & Parker, 2000). Because any effect of perfectionism on parents' psychological control could be interpreted as a consequence of parents' level of negative emotionality or neuroticism, it was important to assess whether parental perfectionism would be predictive of parental psychological control in addition to the effect of parental neuroticism.

Moreover, both parents' and children's reports of psychological control were used as indicators of the psychological control construct. This approach allowed us to circumvent the difficulties associated with the method variance problem (Schwarz, Barton-Henry, & Pruzinsky, 1985; Simons, Whitbeck, Conger, & Chyi-In, 1991). This problem refers to the fact that when two variables are measured using reports from a single source, associations between the variables may be inflated because of the individual's characteristic response tendencies. It was assumed that by utilizing both parents' and children's reports of psychological control, the common reality perceived by parents and children or the true level of psychological control could be estimated more reliably (Simons et al., 1991).

The Role of Psychological Control in the Intergenerational Transmission of Perfectionism

Apart from examining the relation between parental perfectionism and psychological control, we aimed to assess the role of psychological control in the intergenerational transmission of perfectionism from parents to their off-

spring. Several studies have examined whether perfectionism in parents is associated with perfectionism in their late adolescent children (Frost, Lahart, & Rosenblate, 1991; Vieth & Trull, 1999). This research has been conducted from a social learning perspective, assuming that children's personality is modeled to a large degree on their parents' personality characteristics. From the results of these studies, it can be concluded that parent-child similarity in perfectionism is primarily found in same-sex dyads.

Patterns of intergenerational transmission have been studied in such areas as attachment (van IJzendoorn, 1995), substance abuse (Kandel & Wu, 1995), and depression (McCarty, McMahon, & Conduct Problems Prevention Research Group, 2003). In each of these areas, it has been proposed that parenting styles (in addition to other factors such as role modeling and genetic inheritance) are important mechanisms that account for the transmission of beliefs, behaviors, and affects from parents to their offspring. On the basis of this research, we assumed that the transmission of perfectionism from parents to children would be at least partly accounted for by the rearing style adopted by parents.

Theories about the developmental origins of perfectionism have stressed the role of disrupted parent-child relationships. Specifically, it has been emphasized by a number of authors that intrusive parenting is an important precursor of children's perfectionism (Blatt, 1995; Hamachek, 1978). Only recently, however, has research on the relationship between parenting and perfectionism been undertaken. Soenens, Vansteenkiste, Luyten, Duriez, and Goossens (2005) showed that parents' psychological control is a positive predictor of maladaptive (but not adaptive) perfectionism in adolescents.

In light of these findings, it was hypothesized that psychological control acts as an intervening variable in the relation between parent and child maladaptive perfectionism. Although this hypothesis had not yet been examined empirically, some evidence in support of it could be found in a recent study by Elliot and Thrash (2004). These researchers showed that the intergenerational transmission of fear of failure was mediated by late adolescents' reports of their mothers' use of love withdrawal. No evidence was found in that research for the mediating role of fathers' love withdrawal. The concept of fear of failure, which refers to individuals' tendency to be motivated by the desire to avoid failure in achievement situations (Elliot & Thrash, 2004), is conceptually related to maladaptive perfectionism, which also involves high concerns about failing and not meeting self-imposed standards (Blatt, 1995). Likewise, parental love withdrawal may be considered one aspect of the broader construct of psychological control as evidenced in the parent-child relationship. One limitation of that research was its exclusive reliance on child self-reports of the parental style variable.

The Present Study

The present study investigated (a) the role of parental adaptive and maladaptive perfectionism as a predictor of parental psychological control and (b) the role of parents'

psychological control in the intergenerational transmission of maladaptive perfectionism. These issues were examined in a sample of female late adolescents and their parents. First, we anticipated that parental maladaptive perfectionism (and not personal standards—as an adaptive aspect of perfectionism) would be associated with parents' psychological control, particularly in fathers. We also expected that parents' maladaptive perfectionism would positively predict parents' use of psychological control over and above their level of neuroticism. Second, we aimed to establish the role of psychological control in the relationship between parents' and daughters' levels of maladaptive perfectionism. We expected a significant degree of concordance between mothers' and their daughters' maladaptive perfectionism, and on the basis of the research of Elliot and Thrash (2004), we expected that this concordance would be mediated by mothers' psychologically controlling parenting. In contrast, on the basis of the study by Frost et al. (1991), we anticipated that there would be a low or even nonsignificant level of concordance between fathers' and daughters' maladaptive perfectionism. However, also in this case, it was expected that fathers' psychological control would function as an intervening variable in the relationship between fathers' and daughters' maladaptive perfectionism.

Method

Participants and Procedure

Participants were 155 female students enrolled in an educational sciences program at a Dutch-speaking university in Belgium and their parents. The student (i.e., daughter) participants ranged in age from 18 to 24 years ($M = 19.45$ years) and received extra course credit for their participation. Eighty-six percent of the daughter participants came from intact two-parent families, 11% had divorced parents, and in 3% of the families, one parent was deceased. The daughter participants were asked to complete a questionnaire themselves and to distribute a questionnaire to each of their parents. One hundred and forty-eight mothers and 130 fathers returned a completed questionnaire; data from both parents were available for 128 families. The parent participants ranged in age from 41 to 62 years ($M = 47.68$ years). All participants were Caucasian and came from middle-class backgrounds.

Measures

All measures in the present study were translated from English to Dutch, the participants' mother tongue, according to the guidelines of the International Test Commission (Hambleton, 1994). All items were scored on 5-point Likert-type scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Both parent and daughter participants completed the measures of perfectionism and parental psychological control; parent participants were also administered a measure of neuroticism.

Perfectionism. Participants completed the Frost Multidimensional Perfectionism Scale (Frost et al., 1990), which measures five perfectionism dimensions. For the present study, we report the results of the three scales tapping intrapersonal perfectionism only. Cronbach's alpha for the Personal Standards (seven items; e.g., "I set higher goals for myself than most people") scale was .78, .76, and .81 for mothers, fathers, and daughters, respectively. This scale was used as an indicator of adaptive perfectionism. A mal-

adaptive perfectionism scale was constructed by computing the mean of the items tapping concern over mistakes (nine items; e.g., “People will probably think less of me if I make a mistake”) and doubts about actions (four items; e.g., “Even when I do something very carefully, I often feel that it is not quite right”; Soenens et al., 2005). Cronbach’s alpha of this maladaptive perfectionism scale was .85, .86, and .85 for mothers, fathers, and daughters, respectively.

Parental psychological control. A seven-item measure, derived from the Children’s Report of Parents’ Behavior Inventory (Schaefer, 1965), was used to assess parental psychological control (e.g., “My mother/father is less friendly to me if I do not see things like he or she does”). The daughter participants rated the items for both their mother and their father. The parent participants rated the items with respect to their own parenting behavior toward their daughter, and the items for the measure were revised slightly to make them amenable to parent self-report (e.g., the prior sample item was revised to read “I tend to be less friendly to my daughter if she does not see things like I do”). Cronbach’s alphas for daughters’ reports of maternal and paternal psychological control were .85 and .82, respectively; Cronbach’s alpha was .71 for the mother self-reports and .78 for the father self-reports.

Neuroticism. Parents completed the 12-item Neuroticism scale of the authorized Dutch/Flemish version of the NEO Five-Factor Inventory (Hoekstra, Ormel, & De Fruyt, 1996). The Dutch/Flemish items correspond to the original English item pool as closely as possible, and the translated scales have been validated on several Dutch and Flemish samples. Cronbach’s alpha for mothers was .84 and for fathers was .86.

Results

Descriptive Statistics and Preliminary Analyses

Means and standard deviations of the study variables are displayed in Table 1. To examine mean level differences in all study variables among family members, we conducted a series of repeated measures analyses of variance with family member as the within-subjects variable. A significant difference was found between mothers’ and daughters’ reports of maternal psychological control, $F(1, 147) = 9.90, p < .01, \eta^2 = .063$, with mothers describing themselves as less psychologically controlling than they were perceived to be by their daughters. No similar difference was found when comparing father and daughter reports of paternal psychological control ($p = .22$). Additionally, a significant difference was found between mothers and fathers in neuroticism, $F(1, 127) = 11.09, p < .001, \eta^2 = .080$, with mothers scoring higher than fathers. No other significant differences between family members were found.

The Pearson product-moment correlations among the study variables are presented in Table 1. Mothers’ and daughters’ reports of psychological control were positively correlated ($r = .29, p < .001$), and fathers’ and daughters’ reports of psychological control were also positively correlated ($r = .31, p < .001$). The magnitude of these relationships is similar to those observed in other research using parent and child reports of parental socialization (e.g., Schwarz et al., 1985). The parent and daughter reports of psychological control were used as indicators of the same underlying construct in all primary analyses (e.g., Simons et al., 1991).

Table 1
Means, Standard Deviations, and Correlations Among the Study Variables

Measure	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Maladaptive perfectionism—Daughter	2.18	0.56	—											
2. Adaptive perfectionism—Daughter	2.70	0.69	.63***	—										
3. Maladaptive perfectionism—Mother	2.18	0.62	.16*	.20*	—									
4. Adaptive perfectionism—Mother	2.62	0.70	.02	.21*	.60***	—								
5. Maladaptive perfectionism—Father	2.16	0.56	.06	.08	.32***	.30***	—							
6. Adaptive perfectionism—Father	2.72	0.63	-.04	.15	.17*	.20*	.51***	—						
7. Neuroticism—Mother	2.71	0.66	.09	.02	.42***	.09	.05	-.04	—					
8. Neuroticism—Father	2.44	0.61	.07	-.00	.11	.08	.12	-.04	-.04	—				
9. Maternal psychcon—Daughter report	2.24	0.82	.19*	.07	.12	.01	.12	.18	.28***	.22**	—			
10. Paternal psychcon—Daughter report	2.22	0.78	.31***	.20*	.11	.14	.26**	.10	.16	.22**	.22**	—		
11. Maternal psychcon—Mother report	2.00	0.63	.06	.04	.27***	.28***	.11	-.10	.04	.29***	.29***	.01	—	
12. Paternal psychcon—Father report	2.11	0.63	.15	.07	.19*	.21*	.52***	.10	.10	.37***	.11	.31***	.09	—

Note. For each variable, the possible range was between 1 and 5. Psychcon = psychological control.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Primary Analyses

Structural equation modeling (SEM) with latent variables was used to examine the study hypotheses. Analysis of the covariance matrices was conducted using LISREL 8.54 (Jöreskog & Sörbom, 1996), and solutions were generated on the basis of maximum-likelihood estimation. In the analyses, adaptive perfectionism and maladaptive perfectionism were represented using parcels rather than individual scale items. Parceling has several advantages in the modeling of latent variables relative to the use of individual items. Parcels are likely to have a stronger relationship to the latent variable, are less likely to be affected by method effects, and are more likely to meet assumptions of normality (Marsh, Hau, Balla, & Grayson, 1998). Adaptive perfectionism and maladaptive perfectionism were each represented by three randomly created parcels. The same parceling procedure was used to represent mothers', fathers', and daughters' constructs. Parental psychological control was represented using parent and daughter reports as separate indicators of the underlying latent variable. In each SEM, the unstandardized loading of the indicator with the highest loading was set to 1 (Byrne, 2001). Several fit indices were used to evaluate the models: the chi-square:degrees-of-freedom ratio, with values of 2.0 or less indicating acceptable fit; the comparative fit index (CFI), with values of .90 or above indicating acceptable fit; and the root-mean-square error of approximation (RMSEA), with values of .06 or below indicating acceptable fit (Byrne, 2001).

We addressed our hypotheses in three steps. First, we examined the effect of parents' adaptive and maladaptive perfectionism on parents' psychological control. In this step, we also examined whether parents' maladaptive perfectionism would predict parents' psychological control over and above parents' neuroticism. Second, we examined the direct effect of parents' adaptive and maladaptive perfectionism on daughters' adaptive and maladaptive perfectionism (i.e., intergenerational transmission). Third, we examined the effect of parents' maladaptive perfectionism on daughters' maladaptive perfectionism through psychological control.

We also aimed to establish whether the associations found in the mother and father models differed from one another. Therefore, multigroup analyses were performed to compare the parent models with each other. The fit of each of the three models was first assessed after constraining all parameters to be invariant between the two groups (i.e., mothers and fathers). Next, the fit of these models was examined after allowing the parameters to be freely estimated between the two groups. If the nonconstrained model yielded a significantly better fit to the data than the constrained model, this would indicate that the strength of the associations differed between the mother and father models. Finally, some more focused analyses were conducted to locate specific, hypothesized sources of differences between the parent groups.

Confirmatory factor analyses (CFAs). In the measurement phase of the analyses, we conducted a CFA for each of the three types of models to be estimated. In these models,

all latent variables were allowed to covary. Each of the constrained models yielded an acceptable fit to the data in these analyses ($\chi^2/df < 1.5$, CFIs $> .95$, RMSEAs $< .06$), and the loadings of the indicators on their respective latent variables were all moderate to high (from .41 to .88) and statistically significant ($p < .001$). The fit statistics for the nonconstrained models were not different from those for the constrained models in any analysis. Hence, it was deemed appropriate to use the constrained measurement models in the structural phase of the analyses.

Parents' perfectionism and parents' psychological control. In the first structural model, parental psychological control was simultaneously predicted by parental maladaptive perfectionism, parental adaptive perfectionism, and parental neuroticism. The constrained model yielded an acceptable fit to the data, $\chi^2(104, N = 278) = 146.43, p = .004, \chi^2/df = 1.41, CFI = 0.96, RMSEA = .05$ (90% confidence interval [CI]: .03, .07). Both the path from parental maladaptive perfectionism to psychological control ($\beta = .42, p < .05$) and the path from parental neuroticism to psychological control ($\beta = .23, p = .05$) were significant. In contrast, the path from parents' adaptive perfectionism to psychological control was not significant ($\beta = .00, p > .05$). Therefore, this path was fixed at zero. Next, this model was estimated after allowing all structural parameters to be freely estimated between the mother and father models. No significant difference was obtained between the constrained and the nonconstrained models, $\chi^2_{diff}(5, N = 278) = 8.77, p = .12$, indicating that, in general, the mother model did not significantly differ from the father model. However, because we explicitly hypothesized that the path from parental maladaptive perfectionism to psychological control might be stronger for fathers than for mothers, we also tested a model in which only the parameter associated with this specific path was set free. The latter model resulted in a significantly better fit than the constrained model, $\chi^2_{diff}(1, N = 278) = 4.98, p < .05$. Separate analyses for mothers and fathers indicated that the association between parental maladaptive perfectionism and psychological control was indeed stronger for fathers ($\beta = .63, p < .001$) than for mothers ($\beta = .29, p < .05$). It is important to note, however, that in both cases, the association was statistically significant even when controlling for the effect of parental neuroticism. The structural model (for mothers and fathers separately) is shown in Figure 1.

Parents' and daughters' perfectionism. In the second (direct effects) structural model, daughters' adaptive perfectionism was predicted by parents' adaptive perfectionism, and daughters' maladaptive perfectionism was predicted by parents' maladaptive perfectionism. The constrained model yielded an acceptable fit to the data, $\chi^2(128, N = 278) = 95.22, p = .99, \chi^2/df = 0.74, CFI = 1.00, RMSEA = .00$ (90% CI: .00, .01). Both the path from parents' adaptive perfectionism to daughters' adaptive perfectionism ($\beta = .28, p < .001$) and the path from parents' maladaptive perfectionism to daughters' maladaptive perfectionism ($\beta = .14, p < .05$) were significant. Allowing the parameters of this structural model to be freely estimated between the mother and the father models did not result in a significant

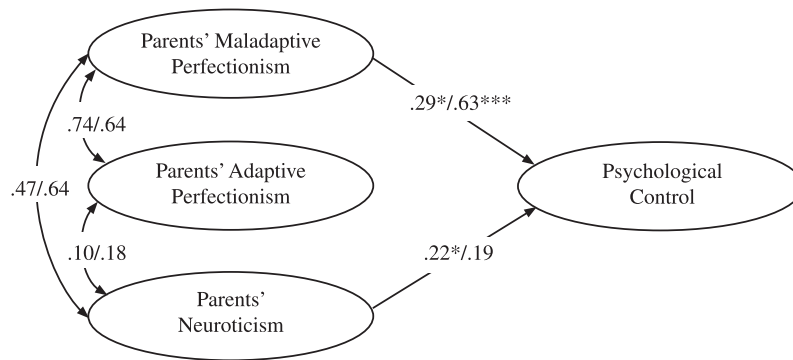


Figure 1. Structural model of the relationships between parental maladaptive perfectionism, parental adaptive perfectionism, parental neuroticism, and psychological control. The coefficients in the figure are standardized estimates. The first coefficient shown is for the mother model; the second coefficient shown is for the father model. * $p < .05$. *** $p < .001$.

increase in model fit, $\chi^2_{\text{diff}}(4, N = 278) = 0.97, p = .91$, indicating that, in general, the models did not differ significantly. However, it should be noted that when testing the mother and father models separately (nonconstrained), the coefficient of the path from parents' to daughters' maladaptive perfectionism was significant for mothers ($\beta = .18, p < .05$) but not for fathers ($\beta = .10, p > .05$). In contrast, the path from parents' to daughters' adaptive perfectionism was significant for both mothers ($\beta = .30, p < .01$) and fathers ($\beta = .26, p < .05$).

Parental psychological control as an intervening variable. The final structural model tested parental psychological control as an intervening variable in the relationship between parents' and daughters' maladaptive perfectionism. In this model, a direct relationship was also allowed between parents' and daughters' adaptive perfectionism. First, we examined whether the direct relationship between parents' and daughters' maladaptive perfectionism documented in the preceding analysis was mediated by psychological control. To test for mediation, we compared two models, namely, a full mediational model (in which no direct relationship was allowed between parents' and daughters' maladaptive perfectionism) and a partial mediational model (in which this direct relationship was allowed). The fit for the (constrained) full mediational model was acceptable, $\chi^2(177, N = 278) = 154.82, p = .88, \chi^2/df = 0.87, CFI = 1.00, RMSEA = .00$ (90% CI: .00, .02); both the path from parents' maladaptive perfectionism to psychological control ($\beta = .56, p < .001$) and the path from psychological control to daughters' maladaptive perfectionism ($\beta = .22, p < .01$) were significant. The path from parents' adaptive perfectionism to daughters' adaptive perfectionism was also significant ($\beta = .27, p < .001$). Adding a direct path from parents' maladaptive perfectionism to daughters' maladaptive perfectionism (i.e., a test of the partial mediational model) did not significantly improve the model fit, $\chi^2_{\text{diff}}(1, N = 278) = 0.25, p = .62$. Akaike's information criterion (AIC; Akaike, 1987), which allows for a comparison between models taking parsimony into account, favored the full mediation model (AIC = 220.82) over the

partial mediation model (AIC = 222.57). As a further test of mediation, we computed MacKinnon, Lockwood, Hoffman, West, and Sheets's (2002) z' test to examine the significance of the relationship between parents' and daughters' maladaptive perfectionism via psychological control. The z' score that was obtained was significant ($z' = 3.08, p = .001$).

Allowing all the parameters of the (full mediation) structural model to be freely estimated between the mother and the father models did not result in a significant increase in model fit, $\chi^2_{\text{diff}}(5, N = 278) = 5.72, p = .33$. Moreover, the test for the indirect effect of parental maladaptive perfectionism on daughters' maladaptive perfectionism through psychological control was significant in both the mother model ($z' = 2.28, p = .01$) and the father model ($z' = 4.63, p < .001$). The full mediation model is displayed in Figure 2.

Discussion

The aim of the present study was twofold, namely, (a) to examine the role of parental perfectionism as a predictor of parental psychological control and (b) to examine the role of parents' psychological control in the intergenerational transmission of perfectionism. First, consistent with current perspectives on the differentiation between adaptive and maladaptive components of perfectionism (e.g., Bieling et al., 2004), it was found that psychological control, as a negative parenting dimension, was predicted by parents' maladaptive perfectionism but not by parents' scores on the personal standards dimension, which has been identified as a more adaptive aspect of perfectionism. For both mothers and fathers, considerable support was found for the hypothesis that maladaptive perfectionistic parents behave toward their children in a more intrusive, psychologically controlling fashion. Although this relationship was documented for both fathers and mothers, the utility of parental maladaptive perfectionism in predicting psychologically controlling parenting proved to be particularly strong for fathers. This finding is in line with research showing that the interpersonal manifestations of perfectionism differ for men and

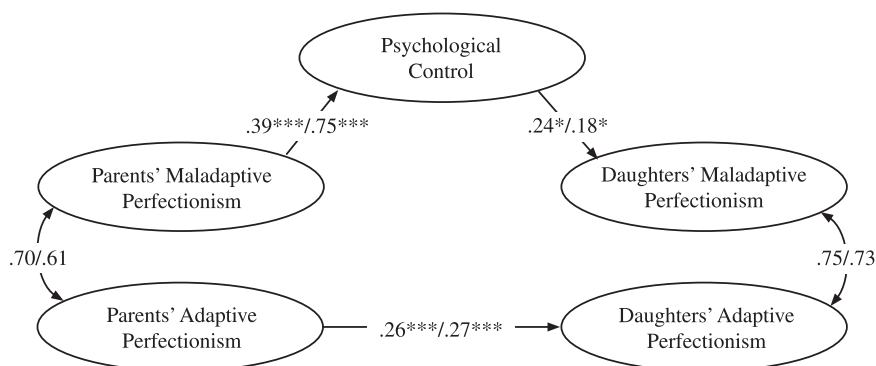


Figure 2. Structural model of the relationships between parents' perfectionism, psychological control, and daughters' perfectionism. The coefficients in the figure are standardized estimates. The first coefficient shown is for the mother model; the second coefficient shown is for the father model. * $p < .05$. *** $p < .001$.

women. Whereas perfectionistic men tend to be domineering and hostile in their relationships with others, perfectionistic women tend to engage in a more submissive interpersonal style (Habke & Flynn, 2002). It is important to note that the relationships observed here remained significant when controlling for parental neuroticism, a variable that has been shown to be predictive of maladaptive parenting in past research (Belsky & Barends, 2002) and that also shares variability with perfectionism (Stumpf & Parker, 2000).

Second, our findings demonstrate that psychologically controlling parenting may play an important role as an intervening variable in the transmission of maladaptive perfectionism from parents to their late adolescent daughters. A number of studies have shown that parent-child similarity in perfectionism occurs mainly in same-sex dyads (e.g., Frost et al., 1991). Although the size of the association between parents' and daughters' maladaptive perfectionism did not differ by parents' sex, we did find that this association was significant between mothers' and daughters' maladaptive perfectionism and not between fathers' and daughters' maladaptive perfectionism. More importantly, convincing evidence was obtained for the intervening role of psychological control in the relation between parents' and daughters' maladaptive perfectionism. The best fitting and most parsimonious model in our SEM analyses was one in which any direct relationship between parents' and daughters' maladaptive perfectionism was completely accounted for by parents' psychological control. Moreover, tests for the indirect effect of parental maladaptive perfectionism on daughters' maladaptive perfectionism via psychological control were significant. Hence, the direct relationship between mothers' and daughters' maladaptive perfectionism can be said to be mediated by mothers' use of psychological control. Although there was no direct relationship between fathers' and daughters' maladaptive perfectionism, psychologically controlling parenting indirectly establishes a link between fathers' and daughters' maladaptive perfectionism. Thus, although the father-daughter intergenerational transmission of perfectionism is less directly

evident than that for mother-daughter pairs, in both cases, parents' psychological control appears to play a significant role as an intervening variable.

For adaptive perfectionism, a significant positive association was found both between mothers and daughters and between fathers and daughters. Notably, the path from parents' to daughters' adaptive perfectionism was somewhat stronger than the path from parents' to daughters' maladaptive perfectionism. The present study is the first to examine the pattern of intergenerational similarity of both adaptive and maladaptive perfectionism using one integrated model. Hence, it would be interesting for future research to attempt to replicate our findings and also to start identifying mediational mechanisms behind the intergenerational transmission of adaptive perfectionism.

The findings of this study have important implications for research on parental psychological control. Although several studies have convincingly demonstrated the negative emotional and behavioral outcomes associated with psychologically controlling parenting (Barber & Harmon, 2002), few studies have addressed the antecedents of this parenting dimension, and none have attended to the influence of parents' personality. Our findings demonstrate that parents characterized by a tendency to be overly concerned with failure and by a continuous sense of doubt about their actions are more likely to engage in contingent approval, guilt induction, and intrusive parenting. One possible explanation for this finding is that maladaptively perfectionistic parents are preoccupied with their self-imposed standards and norms to such an extent that they lack the sensitivity and empathic concern necessary to be appropriately attuned to the needs and wishes of their children. This may result in the autonomy-inhibiting and intrusive behaviors that are characteristic of psychologically controlling parenting. Another possible mechanism linking parents' maladaptive perfectionism and their use of psychological control may be found in the fragility of perfectionistic parents' self-esteem. Maladaptive perfectionistic parents may have a contingent sense of self-worth, which is characterized by feelings about

oneself that are dependent on the achievement of particular standards or expectations. When parents' self-acceptance is contingent on the achievement of their personal goals, they may apply this same contingency to their children by communicating love and acceptance to their children only when they meet the parents' standards and expectations (Elliot & Thrash, 2004). In a related vein, Hewitt and Flett (1991) suggested that perfectionists often set up unrealistic expectations of others and evaluate them in a critical fashion. This tendency, which was referred to by Hewitt and Flett (1991, p. 456) as "other-oriented perfectionism," may explain why perfectionistic parents project their own wishes and standards onto their children by means of psychologically controlling parenting. Future research would do well to examine the role of these variables (i.e., empathy, contingent self-esteem, and other-oriented perfectionism) and additional constructs as mediators that may explain the link between parental maladaptive perfectionism and parental psychological control.

Our findings are in line with a number of recent studies that have shown that maladaptive tendencies and characteristics such as depressive symptoms (McCarty et al., 2003) and fear of failure (Elliot & Thrash, 2004) are transmitted from parents to their children through specific qualities of the parent-child relationship (e.g., low social support and love-withdrawing parenting). Together with the results of this recent research, our study indicates that socialization in general and intrusive parenting in particular play an important role in passing down self-critical, perfectionistic self-representations from one generation to the next. We should note that our study does not rule out the possibility of genetic transmission of maladaptive perfectionism from parent to child, although the fact that we found parent-child similarity only in mother-daughter pairs suggests a minimal role for genes. Research explicitly designed to parse environmental and genetic contributions to perfectionism would be needed to acquire definitive information on this issue. Regardless, the present research documents an important role of psychological control in the development of maladaptive perfectionism in children.

Limitations and Directions for Future Research

Although the present study has several strengths, such as the use of both parent and child reports of parenting style and the inclusion of both fathers and mothers, some limitations warrant consideration. First, our sample consisted of female late adolescents and their parents, which may potentially limit the generalization of our findings. The rationale for selecting this sample was to ensure comparability with Frost et al.'s (1991) study on intergenerational similarity in perfectionism between parents and their late adolescent daughters. Given the promising results of our study, future studies on this topic might attempt to replicate our findings in a sample of male participants. Apart from this, our findings also need replication in samples of younger children and in samples characterized by larger variability in socioeconomic status. In a recent study by Soenens et al. (2005), relationships between adolescents' perceptions of

parental psychological control, adolescents' perfectionism, and adolescents' feelings of depression were shown to be equivalent across two samples of middle adolescents and late adolescents. Moreover, in that study, adolescents' sex did not moderate the relationship between perceived psychological control and adolescents' perfectionism. Given such findings, we anticipate that, despite potential mean differences in parenting and perfectionism between male and female children and between younger and older adolescents, structural relationships between these variables will generally hold across sex and age.

Second, because of the cross-sectional nature of our study, no definite conclusions can be drawn concerning the direction of causality in the model proposed. For instance, perfectionism in parents and psychologically controlling parenting may emerge in response to perfectionistic tendencies displayed by children, or these variables may influence each other reciprocally over time. Therefore, it would be useful for future research to examine the model proposed in the present study using a longitudinal design.

Finally, it would be interesting for future research to examine whether psychological control is also transmitted across generations. Research has provided evidence for the intergenerational continuity of harsh and negative parenting (Simons et al., 1991). It may be hypothesized, therefore, that psychologically controlling parents have themselves been raised in a psychologically controlling family environment. The psychologically controlling parenting that they presumably have experienced may then be transmitted to their children, perhaps in part through their perfectionistic tendencies. In other words, it is likely that the present research focused on one part of a larger process in which personality and parenting style both exert their influence across multiple generations. Research exploring this possibility might form a high priority on the research agenda of personality psychologists and developmental psychologists alike, given the important implications of perfectionism and psychological control for optimal growth and functioning.

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