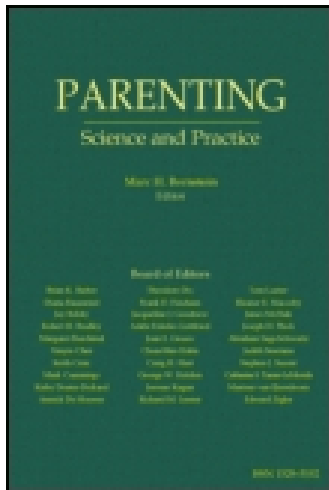


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Dorien Wuyts<sup>a</sup>, Maarten Vansteenkiste<sup>b</sup>, Bart Soenens<sup>b</sup> & Avi Assor<sup>c</sup>

<sup>a</sup> Department of Developmental, Personality and Social Psychology, Ghent University, H. Dunantlaan 2, 9000 Gent, Belgium

<sup>b</sup> Ghent University

<sup>c</sup> Ben-Gurion University, Israel

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# An Examination of the Dynamics Involved in Parental Child-Invested Contingent Self-Esteem

Dorien Wuyts, Maarten Vansteenkiste, Bart Soenens, and Avi Assor

## SYNOPSIS

**Objective.** The present study examined dynamics involved in parents' tendency to hinge their self-esteem on their children's achievements (i.e., child-invested contingent self-esteem). In two studies, a model was tested in which perceived social pressure to be an achievement-promoting parent, and parents' own controlled causality orientation, served as antecedents of parental child-invested contingent self-esteem which, in turn, was related to achievement-oriented psychologically controlling parenting. **Design.** Study 1 was a cross-sectional study in which 254 mothers, 248 fathers, and their 12-year-old children completed a self-report survey. Study 2 was a short-term longitudinal study of 186 parents of 10-year-old children. **Results.** Both studies provided support for the hypothesized model. Study 1 showed that the model held even when controlling for parents' level of self-esteem. Study 2 showed that increases in parental child-invested contingent self-esteem were related to increases in achievement-oriented psychologically controlling parenting even when controlling for child performance. **Conclusions.** Parents' tendency to invest their self-worth in their child's performance is related to a psychologically controlling parenting style and is influenced by parents' personality as well as their perception of the social environment.

## INTRODUCTION

Children's failure to perform well in achievement settings may not only be painful for children, but may also undermine their parent's self-esteem. Jones and Prinz (2005) reviewed evidence that children's low achievement is related to low parental self-efficacy and to parental feelings of incompetence. The undermining effect of children's failure on parents' self-esteem may occur mainly in parents who hinge their self-esteem on their child's performance, such that the child's achievements are perceived to be integral to the parent's self-worth. The purpose of the present investigation is to study dynamics involved in parental child-invested contingent self-esteem. Attention is paid to both the antecedents and outcomes of parents' child-invested contingent self-esteem, with a specific focus on the role of parents' child-invested contingent self-esteem in psychologically controlling parenting.

### Child-Invested Contingent Self-Esteem and Psychologically Controlling Parenting

Contingent self-esteem involves the tendency to hinge one's self-esteem on the attainment of particular criteria for achievement (Kernis, Lakey, & Heppner, 2008). People can invest their self-esteem in personal achievements and in the achievements of others. Given that most parents invest considerable time and resources in their children,

their self-worth is particularly likely to depend on their children's achievement. Child-invested contingent self-esteem refers to parents' inclination to measure their self-worth in terms of the successes and failures of their offspring (Ng, Pomerantz, & Deng, 2014). The more parents' self-worth is implicated in their offspring's achievements, the more their self-esteem peaks when their children succeed and the more their self-worth plummets when their children fail. Parental child-invested contingent self-esteem refers to a controlled and parent-centered orientation toward the child's achievement, where parents feel pressured to prove their worth as a person. This orientation can be contrasted with a more autonomous and child-centered orientation, where parents have a genuine interest in the child's development in achievement-related contexts such as school (Grolnick, 2014).

Parental child-invested contingent self-esteem is considered a risk factor for parental engagement in psychologically controlling behaviors (Ng et al., 2014). Psychological control is defined as an intrusive and manipulative parenting style in which parents use strategies, such as guilt-induction and conditional regard, to pressure a child to behave in accordance with parental standards (Barber, 1996). Psychologically controlling parenting is a robust predictor of problem behaviors in children (e.g., Soenens & Vansteenkiste, 2010) and of difficulties in the domain of learning and school (e.g., Ng, Kenney-Benson, & Pomerantz, 2004). One specific manifestation of psychologically controlling parenting is achievement-oriented psychological control, which is defined as the use of psychologically controlling tactics to pressure the child to attain high standards for performance (Soenens, Vansteenkiste, & Luyten, 2010). Achievement-oriented psychologically controlling parenting is distinct from healthier forms of parental involvement in children's learning and achievement. Such healthier forms of parental involvement can take the form of structure, where parents support children's competence (e.g., by monitoring the child's learning process and by giving constructive feedback; Farkas & Grolnick, 2010). The provision of structure is largely orthogonal to parental use of psychologically controlling tactics (Soenens & Vansteenkiste, 2010). That is, parents can provide structure either in a controlling fashion or in a more autonomy-supportive fashion.

Parental child-invested contingent self-esteem is expected to relate positively to achievement-oriented psychological control because parents high on this orientation might see the use of psychologically controlling tactics as a logical and cost-efficient short-cut to achieve the desired outcome of having a successful child. In line with this reasoning, Ng et al. (2014) found that maternal child-invested contingent self-esteem was related to psychologically controlling parenting in samples of Chinese and American participants. However, they did not find effects of parental child-invested contingent self-esteem on changes in psychologically controlling parenting across a 1-year interval. Because only a handful of studies has examined the hypothesized association between parental child-invested contingent self-esteem and psychologically controlling parenting, the present research aimed to further examine this association in a systematic way, that is, by using different informants, by examining the moderating roles of age and gender, and by adopting a dynamic, short-term longitudinal approach.

### **Antecedents of Parental Child-Invested Contingent Self-Esteem**

An additional aim of the present research was to investigate why some parents display more child-invested contingent self-esteem than others. Specifically, in line with

Grolnick and Apostoleris's (2002) model of antecedents of controlling parenting, the authors focused on the role of (1) pressures from within parents' personal functioning, that is parents' causality orientations, and (2) contextual pressures, that is parents' perceived social pressure to be an achievement-promoting parent.

Causality orientations are considered relatively enduring motivational orientations that characterize people's personality functioning (Deci & Ryan, 1985). A controlled orientation is characteristic of individuals who regulate their behavior on the basis of internal and external demands. As individuals scoring high on this orientation are sensitive to external expectations and pressures, it was hypothesized that they would be more prone to evaluate their self-worth in terms of how capable their children are of meeting external expectations for achievement. In contrast, an autonomous orientation is characteristic of individuals whose actions are grounded in self-endorsed values and interests. It was expected that an autonomous orientation would relate negatively to child-invested contingent self-esteem as parents with this orientation focus more on informational (rather than evaluative) aspects of their environment and have a more secure sense of self-worth (Deci & Ryan, 1985). Indirect evidence for these hypotheses was provided by Hodgins, Brown, and Carver (2007, Study 2), who found that the experimental priming of a controlled orientation, relative to an autonomous orientation, led individuals to display more fragile self-esteem (Kernis et al., 2008).

Whereas a controlled causality orientation can be considered a source of pressure within parents' own functioning, social pressures arising from the broader socio-cultural context can also prime parents' child-invested contingent self-esteem (Grolnick & Apostoleris, 2002). Parents are embedded in a network of social relationships which, in turn, are embedded in the broader society characterized by a particular ideological system (Bronfenbrenner, 1979; Deci & Ryan, 2012). Due to the increasing impact of corporate capitalism across the globe and the meritocratic ideology underlying the capitalistic economic system, it has been noted there is an increasing societal emphasis on performance and excellence in diverse life domains (Kasser, Cohn, Kanner, & Ryan, 2007). Consistent with such commentaries, Schwartz (2007) showed that cultural values associated with corporate capitalism are highly correlated with the average importance individuals attribute to achievement in a society. One potential implication of such a societal emphasis on achievement is that parents may feel they are held accountable for their children's successes and inevitably also for their children's failures (Grolnick & Seal, 2008).

The societal pressure to be an achievement-promoting parent may be conveyed through different channels, including the media, the children's school, other parents, grandparents, or one's partner (Bronfenbrenner, 1979). It was hypothesized that parents who are more inclined to experience social pressure to be achievement-oriented would feel more responsible for their children's performance and would be more likely to buy into the message that their self-worth can be equated with their children's achievements. Deci, Spiegel, Ryan, Koestner, and Kauffman (1982) provided indirect evidence for this hypothesis in an experimental study involving peer-tutoring. Tutors who were held accountable for the performance of the student were rated as being more controlling toward the student compared to tutors who were simply instructed to help the student.

Given that research has shown that low child achievement represents an important predictor of parents' increasing use of control (e.g., Pomerantz & Eaton, 2001), the nature of the interplay between parents' child-invested contingent self-esteem and child achievement in relation to psychologically controlling parenting was also examined.

Specifically, two alternative hypotheses were considered. One possibility is that the association between parental child-invested contingent self-esteem and psychologically controlling parenting would vary with the child's level of achievement. Parental child-invested contingent self-esteem may primarily relate to psychologically controlling parenting when combined with low child achievement because low achievement would represent a threat for parents high on child-invested contingent self-esteem. An alternative possibility is that parents high in child-invested contingent self-esteem would engage in more psychological control irrespective of the child's level of achievement. Because these parents would be continuously looking for ways to enhance their self-esteem, they would use high levels of psychological control irrespective of whether the child's performance is high or low.

### The Present Studies

In two studies we pursued three research aims. First, a process model of parental child-invested contingent self-esteem including achievement-oriented psychologically controlling parenting as an outcome and perceived social pressure to be an achievement-promoting parent and parents' causality orientation as antecedents was examined. It was hypothesized that, through child-invested contingent self-esteem, parents transmit the pressures they experience from within (i.e., their causality orientation) or from their social context (i.e., perceived social pressure to be an achievement-promoting parent) to their children by using more achievement-oriented psychological control. The authors investigated this proposed model among parents of elementary and secondary school children and assessed both child and parent reports of achievement-oriented psychological control. Moreover, the robustness of the model was tested by controlling for parents' level of self-esteem. Second, the authors examined dynamic (i.e., short-term longitudinal) associations between changes in parental child-invested contingent self-esteem and changes in achievement-oriented psychological control. Third, it was investigated whether the child's achievement (as indicated both by the child's actual exam results and by the parents' perception of the child's achievement) would moderate the relation between parental child-invested contingent self-esteem and psychologically controlling parenting.

### STUDY 1

The aim of Study 1 was to test the hypothesized model in a stringent way by relying on different informants for the different constructs in the model and by controlling for parents' level of self-esteem. Controlling for differences in the level of self-esteem was deemed critical as past research has shown that contingent self-esteem and level of self-esteem are negatively related (e.g., Kernis et al., 2008). As a consequence, any association between parental child-invested contingent self-esteem and achievement-oriented psychological control could be accounted for by parents' level of self-esteem. Furthermore, the possible moderating role of the children's age was addressed in an exploratory fashion. The two hypotheses seemed plausible. On the one hand, children's age-related declines in motivation typically observed in research (e.g., Gottfried, Fleming, & Gottfried, 2001) may increasingly be perceived as a threat to parents high on child-invested contingent self-esteem, such that they increasingly engage in

achievement-oriented psychological control as the child grows older. On the other hand, the association between child-invested contingent self-esteem and psychological control may show up irrespective of the child's age because child-invested contingent self-esteem may be a relatively stable parental feature that manifests in similar ways across developmental periods.

## Method

**Participants.** A total of 254 Dutch-speaking Belgian families including 254 mothers, 248 fathers, and 254 children participated in this study. Half of the sample consisted of families with children in elementary school (grades 4–6), whereas the other half of the sample consisted of families with adolescents attending middle school or high school (grades 7–11). On average, mothers were 42 years old ( $SD = 4.61$ ; range = 27–56), and fathers were 45 years old ( $SD = 5.26$ ; range = 27–59). The elementary school children were 10 years old on average ( $SD = .93$ ; range = 7–12) and 52% were female. The adolescents were 14 years old on average ( $SD = 1.14$ ; range = 12–16) and 51% were female. Eighty-four percent of the mothers and fathers reported that they were married or living together with the other biological parent of the child. Most families included two (i.e., 44%) or three (i.e., 35%) children, whereas only 4% of the families included one child and 16% of the families included more than three children. One child per family participated in the study. Parents were asked to keep this target child in mind when filling out the questionnaires. Parents were relatively highly educated, as 71 and 59% of the mothers and fathers, respectively, had obtained a college or university degree.

Families were recruited as part of an undergraduate course in developmental psychology in which students were asked to invite two families (who were not relatives or close friends of the student) to participate in the study. Students were trained to approach potentially interested families. They briefly explained the purpose of the study and asked both parents and adolescents to orally consent to participation. Questionnaires with detailed information and instructions were provided by the undergraduate students during a home visit and were filled out in the absence of the student who recruited the family. The first page of the instructions emphasized that participation was voluntary and data would be treated confidentially. After filling out the questionnaires, family members put their questionnaires in separate, sealed envelopes and returned these envelopes to the student who, in turn, returned them to the researchers.

**Measures.** All items were rated on a 5-point Likert scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). Mothers and fathers filled out questionnaires tapping into parental child-invested contingent self-esteem, general level of self-esteem, perceived social pressure to be an achievement-promoting parent, and causality orientations. Children provided ratings of achievement-oriented psychological control. Scale scores were computed by taking the mean of the scale items.

**Child-invested contingent self-esteem.** An available, yet not formally validated scale (Assor, Roth, Israeli-Halevi, Freed, & Deci, 2007) was used, herein labeled the Child-invested Contingent Self-Esteem Scale. This scale contains items assessing the extent to which parents' self-esteem is contingent on children's achievement in general (three items; e.g., "How I feel about myself is often related to my child's achievements.")

as well as on the child's successes (six items; e.g., "When my child succeeds I feel good about myself."), and on the child's failures (six items; e.g., "My child's failure is also my failure."). Results of an exploratory factor analysis on the current sample (using principal axis factoring) supported one-factor solutions for both the maternal and the paternal data. The scree-plot indicated a clear elbow after the first retained factor, thereby explaining 44 and 40% of the variance in the maternal and paternal responses, respectively. All items had a minimal loading of .40. Cronbach's alphas were .91 for mothers and .89 for fathers.

The validity of this scale was examined in a pilot study among 311 Belgian mothers,  $M$  age = 45 years, and 311 fathers,  $M$  age = 47 years, and their adolescent daughter or son, 50% female;  $M$  age = 16 years. The scale for parental child-invested contingent self-esteem was correlated with measures of parental personal standards perfectionism and evaluative concerns perfectionism (Frost, Marten, Lahart, & Rosenblate, 1990). Theoretically, perfectionists are likely to hinge their self-worth on the achievement of standards for excellence (DiBartolo, Li, & Frost, 2008). Consistent with this notion, parental child-invested contingent self-esteem correlated positively with both parental personal standards perfectionism,  $r(311) = .33, p < .001$ , and  $r(311) = .37, p < .001$ , for maternal and paternal ratings, respectively, and parental evaluative concern perfectionism,  $r(311) = .43, p < .001$ , and  $r(311) = .50, p < .001$ , for maternal and paternal ratings, respectively.

**Level of self-esteem.** General level of self-esteem was measured using the Rosenberg (1965) self-esteem scale (e.g., "On the whole, I am satisfied with myself."). Cronbach's alphas were .87 for mothers and .86 for fathers.

**Social pressure to be an achievement-promoting parent.** To assess parents' perceived social pressure to be an achievement-promoting parent, 30 face valid items tapping into five different sources of perceived social pressure were developed (i.e., grandparents, partner, other parents, the school, and the media). Parents rated the extent to which a particular source made them feel as if they were responsible for their children's achievements. The same set of six items was used for each of these five sources. Three items were oriented toward the attainment of a positive outcome (e.g., "My partner makes me feel responsible for the performance of my child."), and three items were oriented toward the avoidance of a negative outcome (e.g., "The school expects me to make sure my child doesn't fail."). Results of an exploratory factor analysis on the current sample (using principal axis factoring) supported one-factor solutions for both the maternal and the paternal data. The scree-plot indicated a clear elbow after the first retained factor, which explained 45 and 48% of the variance in the maternal and paternal responses, respectively. All items had a minimal loading of .54. Cronbach's alphas were .95 for both mothers and fathers.

The validity of this scale was examined in a second pilot study among 102 Belgian mothers,  $M$  age = 40 years, and 90 fathers,  $M$  age = 44 years. The target children of these parents were 49% female and were 12 years old on average. The scale for perceived social pressure to be an achievement-promoting parent was correlated with a measure of societal prescribed perfectionism, a subscale of the Multidimensional Parenting Perfectionism Questionnaire (MPPQ; Snell Jr., Overbey, & Brewer, 2005). Societal prescribed parenting perfectionism involves the belief that society in general expects one to be a perfect parent. As expected, perceived social pressure correlated positively with



societal prescribed parental perfectionism,  $r(100) = .53, p < .001$ , and  $r(90) = .53, p < .001$ , for both maternal and paternal ratings, respectively.

**Causality orientations.** The General Causality Orientations Scale (GCOS; Deci & Ryan, 1985) was used to measure parents' autonomy and controlled causality orientations. The questionnaire consists of 12 vignettes, each representing a situation in daily life (e.g., "You had a job interview several weeks ago. In the mail you received a form letter which states that the position has been filled. It is likely that you might think. . ."), followed by items reflecting the two different motivational orientations. An example item for the autonomous orientation reads: "Somehow they didn't see my qualifications as matching their needs." An example of the controlled orientation reads: "It's not what you know, but who you know." Parents rated both the items tapping into the autonomous and the controlled orientation and were not asked to make a forced choice. Information about the psychometrics and validity of this scale is presented in Deci and Ryan (1985). Cronbach's alphas were .69 and .72 for the autonomous orientation and .74 and .76 for the controlled orientation for maternal and paternal ratings, respectively.

**Child-reported achievement-oriented psychological control.** Achievement-oriented psychological control was assessed with the corresponding nine-item scale from the Dependency-Oriented and Achievement-Oriented Psychological Control Scale, a well-validated measure tapping into two domain-specific manifestations of psychologically controlling parenting (Soenens et al., 2010). This measure was administered to the children, who provided ratings for mothers and fathers separately. Sample items read as follows: "My mother/father only shows her/his love if I get good grades." Cronbach's alphas were .82 and .88 for the child-reported maternal and paternal ratings, respectively.

## Results and Discussion

**Preliminary analyses.** Table 1 provides the descriptive statistics and correlations between the study variables. Parental child-invested contingent self-esteem was positively associated with social pressure to be an achievement-promoting parent, the controlled orientation, and child-reported achievement-oriented psychological control in both the maternal and paternal data. In contrast, the association with the autonomy causality orientation did not reach significance. Furthermore, although the autonomous orientation displayed a small negative correlation with child-reported achievement-oriented psychological control in the paternal data, this association became non-significant when controlling for the variance shared with the controlled causality orientation in a multiple regression analysis,  $\beta = -.12, ns$ . Therefore, the authors decided not to include the construct of autonomy causality orientation in the main analyses.

Next, a repeated-measures multivariate analysis of covariance with the study variables as dependent variables was conducted, with parent gender as a within-subjects variable, child gender and family structure (whether or not the family was intact) as between-subjects variables, and with parental education level, parental age, and child age as covariates. Only maternal educational level yielded an overall significant association, Wilks' Lambda = .89,  $F(5, 219) = 5.33, p < .001$ . Follow-up univariate tests indicated associations of maternal educational level with controlled orientation,  $F(1, 223) = 14.73,$

**TABLE 1**  
Descriptive Statistics, Internal Consistencies, and Correlations in Study 1

	Mother M (SD)	Father M (SD)	1	2	3	4	5	6
1. Child-invested contingent self-esteem	2.50 (.68)	2.47 (.63)	—	-.25***	.47***	.37***	-.11	.19**
2. Level of self-esteem	3.42 (.47)	3.50 (.44)	-.14*	—	-.15*	-.14*	.13*	-.06
3. Social pressure to be an AP parent	2.45 (.70)	2.53 (.69)	.43***	-.08	—	.24***	-.15*	.08
4. Controlled orientation	2.47 (.57)	2.65 (.58)	.41***	-.06	.31***	—	-.29***	.20**
5. Autonomous orientation	4.19 (.40)	4.03 (.44)	-.12	.29***	-.05	-.27***	—	-.17**
6. Child-reported achievement-oriented psychological control	1.71 (.67)	1.65 (.71)	.29***	-.09	.13*	.14*	-.10	—

*Note.* Correlations between the maternal variables are shown below the diagonal. Correlations between the paternal variables are shown above the diagonal. AP = achievement-promoting.

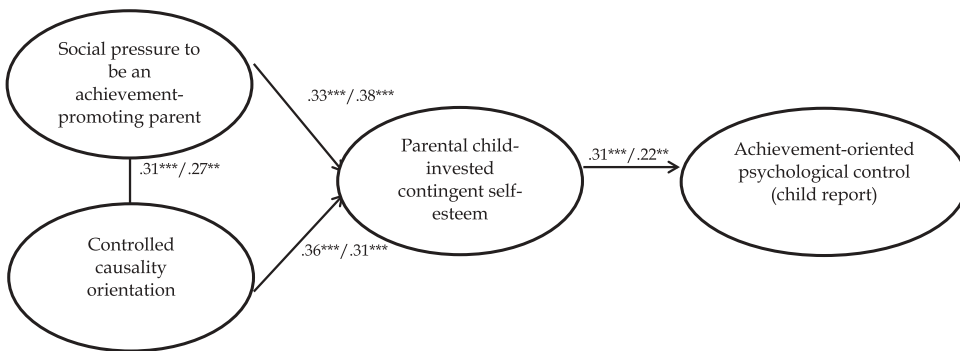
\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

$p < .001$ , general level of self-esteem,  $F(1, 223) = 8.75$ ,  $p < .01$ , and achievement-oriented psychological control child report,  $F(1, 223) = 4.79$ ,  $p < .05$ . Parameter estimates showed that with increasing level of education mothers reported lower controlled orientation and higher self-esteem, and had children who reported less achievement-oriented psychological control. Given these results, the authors controlled for maternal educational level in the main analyses.

**Structural equation modeling (SEM).** The hypothesized model involved paths from the two presumed antecedents to parental child-invested contingent self-esteem which, in turn, was related to achievement-oriented psychological control. This model was tested separately for maternal and paternal ratings. Moreover, maternal educational level was controlled for (in the maternal model) for level of self-esteem in both the maternal and paternal model. To examine this model, SEM analyses were performed using MPlus 6 software with robust maximum likelihood estimation (Muthén & Muthén, 2010). Latent variables were constructed through parceling, with each latent variable being represented by three parcels. Parcels were created by combining a random selection of scale items (Little, Cunningham, Shahar, & Widaman, 2002). The comparative fit index (CFI), the root-mean-square residual (RMSEA), and the standardized root-mean-square residual (SRMR) were inspected. Values lower or close to .06 for RMSEA and .09 for SRMR and values of .95 or higher for CFI reflect adequate fit (Hu & Bentler, 1999).

In a first step, we investigated the measurement model with five latent variables. The estimated measurement models had a good fit for both the mother data,  $SBS-\chi^2(80) = 70.91$ , *ns*, RMSEA = .00, SRMR = .03, CFI = 1.00, and the father data,  $SBS-\chi^2(80) = 109.37$ ,  $p < .05$ , RMSEA = .04, SRMR = .04, CFI = .99. Factor loadings of the indicator variables on their latent factors were moderate to high, ranging from .74 to .97 for the maternal data and ranging from .66 to .97 for the paternal data, all  $ps < .001$ .

Next, the hypothesized structural model was estimated,  $SBS-\chi^2(95) = 90.79$ , *ns*, RMSEA = .00, SRMR = .04, CFI = 1.00, for mothers and  $SBS-\chi^2(82) = 113.86$ ,  $p < .05$ , RMSEA = .04, SRMR = .05, CFI = .99, for fathers. As shown in Figure 1, all estimated paths were significant, even when controlling for background variables in the maternal



**FIGURE 1**

The structural model with standardized parameter estimates (Study 1). All associations shown are controlled for the background variables and for level of self-esteem. For clarity of presentation these associations are not displayed. Also the direct paths from the controlled causality orientation and social pressure to be an achievement-promoting parent to child-reported achievement-orientation psychological control were not significant and, therefore, not displayed. The first coefficient shown is for maternal ratings and the second coefficient is for paternal ratings. \*\* $p < .01$ . \*\*\* $p < .001$ .

model and for level of self-esteem in both models, the effects of which were not significant. The authors also investigated whether the two antecedents yielded a unique direct association with child-reported achievement-oriented psychological control. Adding these paths did not improve model fit,  $\Delta\text{SBS-}\chi^2(2) = .22, ns$ , and  $\Delta\text{SBS-}\chi^2(2) = 4.91, ns$ , for maternal and paternal ratings, respectively. Bootstrap analyses were conducted with 5000 samples to test the significance of the indirect effects (Hayes, 2009; MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). These analyses indicated that the indirect association between social pressure and child-reported achievement-oriented psychological control through parental child-invested contingent self-esteem was significant,  $\beta = .11, 95\% \text{ CI } .04 \text{ to } .17$ , and  $\beta = .09, 95\% \text{ CI } .02 \text{ to } .15$ , for the maternal and paternal ratings, respectively. Similarly, also the indirect association between controlled orientation and child-reported achievement-oriented psychological control through child-invested contingent self-esteem was significant,  $\beta = .11, 95\% \text{ CI } .04 \text{ to } .19$ , and  $\beta = .07, 95\% \text{ CI } .01 \text{ to } .13$ , for the maternal and paternal ratings, respectively.

Furthermore, the authors tested whether the structural relations of the model differed across the two age groups. First, the equivalence of the measurement model by performing a multi-group CFA comparing the fit of the measurement model between the elementary school children and high school children was examined. The fit of the constrained model did not differ from the fit of the unconstrained model,  $\Delta\text{SBS-}\chi^2(10) = 8.66, ns$ ,  $\Delta\text{CFI} = .000$ , for the mother model and  $\Delta\text{SBS-}\chi^2(10) = 9.16, ns$ ,  $\Delta\text{CFI} = .000$ , for the father model, suggesting factorial invariance. Then, a constrained version of the structural model (i.e., a model in which the path coefficients were set equal across the two subsamples) was compared to an unconstrained model (i.e., a model in which the path coefficients were allowed to vary). The unconstrained model did not have a better fit than the constrained model,  $\Delta$  on a  $\chi^2(4) = 1.42, ns$ ,  $\Delta\text{CFI} = .001$ , for the maternal ratings and  $\Delta\text{SBS-}\chi^2(4) = 4.96, ns$ ,  $\Delta\text{CFI} = .000$ , for the paternal ratings, indicating that the model was structurally invariant across age groups.

## STUDY 2

Apart from replicating the findings regarding the antecedents of parents' child-invested contingent self-esteem, Study 2 aimed to investigate whether increases in parents' child-invested contingent self-esteem would be related to increases in achievement-oriented psychological control. In the only longitudinal study on this issue to date, Ng et al. (2014) failed to find evidence for a longitudinal effect of parental child-invested contingent self-esteem. The authors revisited the possibility of a longitudinal association between parents' child-invested contingent self-esteem and psychologically controlling parenting by examining this association in a naturalistic context, that is, during a parent-teacher conference where parents receive feedback on the child's exam results. In addition, the authors aimed to examine whether this longitudinal association would be moderated by the child's achievement, thereby considering both the child's actual achievement and parents' perception of the child's performance.

Furthermore, the potential moderating roles of parental and child gender were explored. Examining the moderating role of gender was deemed important with regard to achievement-oriented psychological control because (1) fathers tend to score higher than mothers on this parenting dimension and (2) boys perceive this type of psychologically controlling parenting to be more prevalent than girls (Soenens et al., 2010). In spite of these mean-level differences, associations between achievement-oriented psychological control and outcomes are generally equivalent across gender (Soenens, Park, Vansteenkiste, & Mouratidis, 2012; Soenens et al., 2010). It is less clear, however, whether the presumed antecedents of achievement-oriented psychologically controlling parenting would be invariant across gender.

### Method

**Participants.** At Time 1 (beginning of the first semester of the school year), a total of 318 Dutch-speaking Belgian parents (167 mothers and 151 fathers) of elementary school children (grades 3–6) participated. Of all the parents who were asked to participate, 71% accepted the invitation. At Time 2 (end of the semester), a total of 186 parents (94 mothers and 92 fathers) participated again, representing a retention rate of 58%. Dropout from the study was caused by several factors, including the fact that some parents did not attend the parent-teacher conference, a lack of interest in the study, and a lack of time. At Time 2 we also obtained children's official exam results from their teachers. However, not all teachers provided all the information necessary to link children's school results to the questionnaires filled out by the parents, resulting in a final sample of 174 parents with complete data. On average parents were 40 years old ( $SD = 4.57$ ; range = 25–60), and children (50% female) had a mean age of 10 years ( $SD = 1.16$ ; range = 8–12). Seventy-nine percent of the parents reported that they were married or living together with the other biological parent of the child. Most families included two (57%) or three (24%) children, whereas only 14% of the families had one child and 5% of the families had more than three children. Parents were relatively highly educated, as 57% had obtained a college or university degree.

**Procedure.** Five elementary schools were contacted, four of which were willing to participate in the study. At the beginning of the school year each child received a sealed envelope containing questionnaires for their parents. Parents were asked to keep this

target child in mind when filling out the questionnaires and to return the questionnaire in a sealed envelope via their child. At the end of the first semester parents were asked to participate again, immediately after they left the parent-teacher conference which took place on a school night. At the parent-teacher conference parents were informed about their child's exam scores as well as about the mean and median scores of the class. They also talked with the teacher about the general functioning and progress of their child. Ninety-one percent of the children had only one parent (i.e., either mother or father) participating in the study because often only one parent attended the parent-teacher conference. For the cases in which both parents attended, the father was chosen to participate in the study so as to arrive at a balanced distribution of parental gender. At both waves it was emphasized that participation was voluntary and that confidentiality was guaranteed.

**Measures.** As in Study 1, all items were rated on a 5-point scale, and scale scores were computed as the mean of the items. At Time 1 parents filled out the same questionnaires as in Study 1 tapping into their child-invested contingent self-esteem,  $\alpha = .90$ , their perceived social pressure to be an achievement-promoting parent,  $\alpha = .96$ , their controlled causality orientation,  $\alpha = .73$ , and autonomy causality orientation,  $\alpha = .75$ . However, in contrast to Study 1 parents (rather than their children) provided information about their use of achievement-oriented psychological control,  $\alpha = .67$ . At Time 2, immediately after they left the parent-teacher conference, parents reported about their child-invested contingent self-esteem, their intention to use achievement-oriented psychological control, and their perception of their child's academic success. More information about these Time 2 measures is provided below.

**Child-invested contingent self-esteem at Time 2.** To measure parental child-invested contingent self-esteem at Time 2, parents were asked to rate the extent their self-esteem was invested in their child's exam results received at the parent-teacher conference. To keep this questionnaire as short as possible, six relevant items were selected from the broader child-invested contingent self-esteem scale and slightly adjusted the formulation of these items (e.g., "My child's exam results make me feel good about myself."). Cronbach's alpha was .70.

**Intention to use achievement-oriented psychological control at Time 2.** Parents rated their intention to use achievement-oriented psychological control when involved with their child's school work during the next semester. For brevity, four items were selected from the achievement-orientation psychological control scale and slightly changed the formulation of these items to assess parents' intention to use achievement-oriented psychological control (e.g., "I will more often tell my child he/she needs to be ashamed when he/she is insufficiently committed to his/her schoolwork."). Cronbach's alpha was .75.

**Actual achievement.** Teachers from all participating schools provided a list of exam results from the past examination period for Dutch (i.e., the children's mother tongue) and Mathematics, the two most important subjects. An aggregate measure for actual achievement was computed by standardizing the exam scores within classes (to control

for differences in performance between classes) and taking the mean across the two subjects.

**Parent perceived academic success at Time 2.** Parents rated their perception of their child's success on three items (e.g., "To what extent do you consider the results of your child as a success?") on a 6-point Likert scale ranging from 1 (*totally disagree*) to 6 (*totally agree*). The mean score of these items was also standardized to the child's class. Cronbach's alpha was .77.

## Results and Discussion

**Preliminary analyses.** Table 2 provides the descriptive statistics and correlations of the study variables. Child-invested contingent self-esteem was positively associated with social pressure to be an achievement-promoting parent, the controlled orientation, and achievement-oriented psychological control at Time 1 and 2. As in Study 1, parental child-invested contingent self-esteem was unrelated to an autonomy causality orientation. Although an autonomy causality orientation yielded a small negative association with achievement-oriented psychological control at both times, these associations became non-significant when controlling for the variance shared with a controlled causality orientation in a multiple regression analysis,  $\beta = -.09$ , *ns* and  $\beta = -.14$ , *ns*, for Time 1 and 2, respectively. Therefore, it was decided not to include the autonomy causality orientation in subsequent analyses.

Next, a multivariate analysis of covariance was conducted to explore whether background variables (i.e., child age, child gender, parental educational level, parental

TABLE 2  
Descriptive Statistics, Internal Consistencies, and Correlations in Study 2

Variable	<i>M</i> ( <i>SD</i> )	1	2	3	4	5	6	7	8	9
1. Social pressure to be an AP parent Time 1	2.43 (.73)	–								
2. Controlled orientation Time 1	2.55 (.55)	.18**	–							
3. Autonomous orientation Time 1	4.10 (.46)	.02	–.28**	–						
4. Child-invested contingent self-esteem Time 1	2.36 (.69)	.57***	.27***	.00	–					
5. Child-invested contingent self-esteem Time 2	1.84 (.55)	.35***	.39***	–.09	.52***	–				
6. Achievement-oriented PC Time 1	1.45 (.45)	.28***	.18**	–.14*	.41***	.11	–			
7. Intended achievement-oriented PC Time 2	1.58 (.62)	.26***	.21**	–.19*	.30***	.31***	.41***	–		
8. Actual achievement	0.16 (.94)	.02	.00	.04	.01	.07	–.12*	–.09	–	
9. Parent perceived academic success	0.01 (.78)	–.05	.08	.19*	–.09	.10	–.24**	–.32***	.44***	–

AP = achievement-promoting; PC = psychological control.

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

age, parental gender, family structure) were associated with the study variables. Parental educational level, Wilks' Lambda = .86,  $F(8, 145) = 2.94$ ,  $p < .01$ , and parental gender, Wilks' Lambda = .85,  $F(8, 145) = 3.18$ ,  $p < .01$ , yielded an overall significant association. Follow-up univariate tests indicated that with increasing level of education, parents reported more social pressure to be an achievement-promoting parent,  $F(1, 152) = 6.48$ ,  $p < .05$ , more child-invested contingent self-esteem at Time 1,  $F(1, 152) = 5.31$ ,  $p < .05$ , more achievement-oriented psychological control at Time 1,  $F(1, 152) = 8.34$ ,  $p < .01$ , and children displayed higher actual achievement,  $F(1, 152) = 4.46$ ,  $p < .05$ . Follow-up univariate tests also indicated associations of parental gender with the controlled causality orientation,  $F(1, 152) = 10.11$ ,  $p < .01$ , and intended achievement-oriented psychological control at Time 2,  $F(1, 152) = 7.88$ ,  $p < .01$ , with mothers scoring lower on the controlled orientation,  $M = 2.33$ ,  $SE = .06$ , and reporting less intention to use achievement-oriented psychological control,  $M = 1.42$ ,  $SE = .08$ , relative to fathers,  $M = 2.58$ ,  $SE = .07$  and  $M = 1.70$ ,  $SE = .09$ , respectively. Parental education and parental gender were controlled for the main analyses.

To assess whether attrition from Time 1 to Time 2 was random, a logistic regression analysis was performed testing whether sample attrition (dummy coded as dropout = 0, and retention = 1) was predicted by the background variables mentioned earlier (entered in Step 1) and all study variables at Time 1 together with children's actual school results (entered in Step 2). Model Chi-square for Step 1 was not significant,  $\chi^2(6) = 8.03$ , *ns*, indicating that dropout was unrelated to the background variables. For Step 2, a significant chi-square was found,  $\chi^2(5) = 26.85$ ,  $p < .001$ . Parents who participated at both times reported lower levels of controlled orientation,  $M = 2.45$ ,  $SD = .52$ , lower levels of achievement-oriented psychological control,  $M = 1.40$ ,  $SD = .42$ , and had better performing children,  $M = .33$ ,  $SD = .87$ , than those who dropped out,  $M = 2.68$ ,  $SD = .57$ ;  $M = 1.51$ ,  $SD = .49$ ;  $M = -.14$ ,  $SD = .98$ , respectively. However, a direct comparison of the correlation matrices of the study variables at Time 1 and child's actual school results revealed no significant differences between parents who participated twice and parents who only participated at Time 1,  $\chi^2(10) = 10.65$ ,  $p < .39$ . Hence, despite the mean-level difference in some of the study variables, the pattern of associations among the study variables was equivalent for longitudinal participants and dropouts.

**SEM.** Again, SEM analyses were performed to examine relations between the presumed antecedents and outcomes of parental child-invested contingent self-esteem at Time 2. To model changes in controlling parenting and child-invested contingent self-esteem, we controlled for Time 1 baseline levels in both constructs. The role of the child's actual and parent perceived achievement were also examined. Finally, the authors controlled for parental education and gender by allowing paths from these background variables to all the relevant constructs in the model.

In a first step, the measurement model was investigated with seven latent variables. The estimated measurement model had a good fit,  $SBS-\chi^2(188) = 222.44$ ,  $p < .05$ ,  $RMSEA = .02$ ,  $SRMR = .05$ ,  $CFI = .99$ . Factor loadings of the indicator variables on their respective latent factors were moderate to high, ranging from .55 to .97, and significant,  $ps < .001$ .

Next, the hypothesized structural model was estimated,  $SBS-\chi^2(247) = 314.54$ ,  $p < .01$ ,  $RMSEA = .03$ ,  $SRMR = .05$ ,  $CFI = .98$ . As shown in [Figure 2](#), both parental

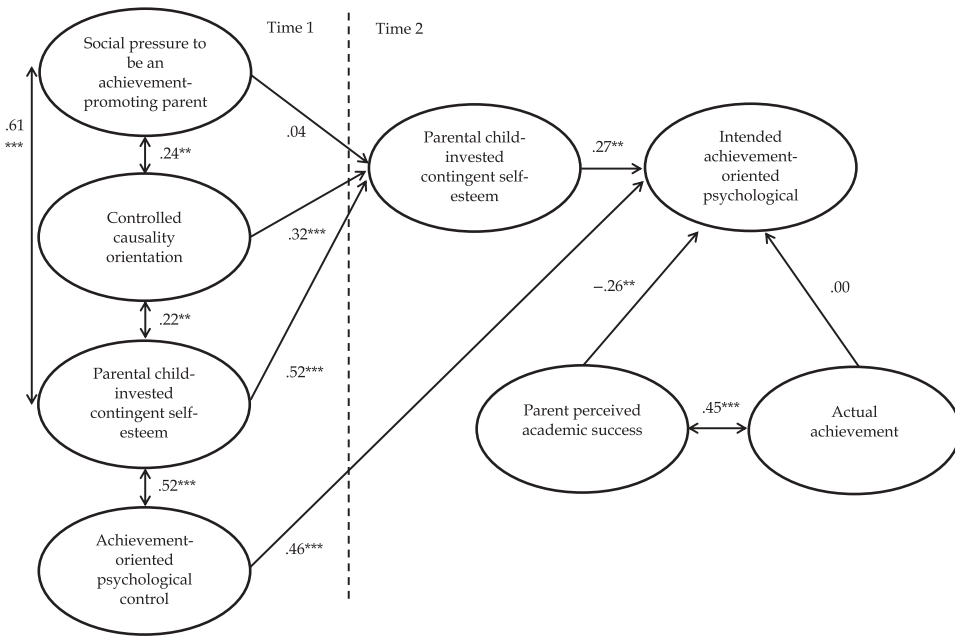


FIGURE 2

The structural model with standardized parameter estimates (Study 2). All associations shown are controlled for the background variables but for clarity of presentation these associations are not displayed. Also the direct paths from the controlled causality orientation and parental child-invested contingent self-esteem at Time 1 to intended achievement-oriented psychological control at Time 2 were not significant and therefore not displayed. \*\* $p < .01$ . \*\*\* $p < .001$ .

child-invested contingent self-esteem and achievement-oriented psychological control displayed moderate stability. Replicating Study 1, the controlled orientation and social pressure were positively related to child-invested contingent self-esteem at Time 1. More importantly, the central path between child-invested contingent self-esteem at Time 2 and intended achievement-oriented psychological control at Time 2 was significant even when controlling for initial levels of both constructs, indicating that increases in parental child-invested contingent self-esteem were related to increases in psychologically controlling parenting. The authors also tested whether initial levels of child-invested contingent self-esteem at Time 1 were predictive of changes in achievement-oriented psychological control. This effect was not significant,  $\beta = -.07, ns$ .

In terms of the antecedents of changes in parental child-invested contingent self-esteem, only a controlled causality orientation (but not social pressure to be an achievement-oriented parent) was significantly related to increases in child-invested contingent self-esteem. The authors also investigated whether a controlled causality orientation at Time 1 would have a direct association with intended achievement-oriented psychological control at Time 2 beyond the indirect association through parental child-invested contingent self-esteem. Adding this path did not improve model fit,  $\Delta SBS-\chi^2(1) = .11, ns$ , and the added path was not significant. As in Study 1, bootstrap



analyses were conducted to test the significance of the indirect effect. These analyses indicated that the indirect association between controlled orientation at Time 1 and intended achievement-oriented psychological control at Time 2 through child-invested contingent self-esteem at Time 2 was significant,  $\beta = .09$ , 95% CI .01 to .16.

In terms of the effects of child achievement, it was found that only parent-perceived achievement (and not actual child achievement) had a significant negative association with intended achievement-oriented psychological control at Time 2, indicating that parents who are dissatisfied with their child's achievement are inclined to increase their use of psychological control in the achievement domain. The authors also entered interactions between Time 2 parental child-invested contingent self-esteem and both actual and parent perceived child achievement in the model. However, both interactions were not significant, indicating that increases in parental child-invested contingent self-esteem were related to increases in a controlling approach irrespective of the child's achievement.

Finally, the authors tested whether the structural relations in the model were moderated by parental gender and child gender. First, the equivalence of the measurement model by performing a multi-group CFA were examined, thereby comparing the fit of the measurement model between (1) the mother and father data and (2) the daughter and son data. There was no difference in model fit between the constrained models and the unconstrained models,  $\Delta\text{SBS-}\chi^2(15) = 3.43$ , *ns*,  $\Delta\text{CFI} = .005$ , and  $\Delta\text{SBS-}\chi^2(15) = 13.11$ , *ns*,  $\Delta\text{CFI} = .002$ , for parent and child gender, respectively, suggesting factorial invariance. Then, a constrained version of the structural models was compared to the corresponding unconstrained versions. The unconstrained models did not have a better fit than the constrained models,  $\Delta\text{SBS-}\chi^2(12) = 13.52$ , *ns*,  $\Delta\text{CFI} = -.001$ , and  $\Delta\text{SBS-}\chi^2(12) = 6.53$ , *ns*,  $\Delta\text{CFI} = .003$ , for parent and child gender respectively, indicating that the models were structurally invariant across parent gender and child gender.

## GENERAL DISCUSSION

The present studies addressed antecedents and outcomes of parents' child-invested contingent self-esteem, thereby attempting to draw a rich picture of the dynamics involved in parental child-invested contingent self-esteem.

### Child-Invested Contingent Self-Esteem and Psychologically Controlling Parenting

Convincing evidence was found for the hypothesized link between parents' child-invested contingent self-esteem and a reliance on psychologically controlling strategies in the achievement domain. This finding is consistent with previous research (e.g., Ng et al., 2014) and with Grolnick and Apostoleris's (2002) argument that pressure stemming from parents' own functioning may make parents more likely to use pressuring tactics. The use of psychologically controlling parenting strategies might be perceived by parents high on child-invested contingent self-esteem as a cost-efficient short-cut to achieve their desired goal, that is having a successful child and, in doing so, boosting their own self-worth. The present studies further indicated that the association between parental child-invested contingent self-esteem and pressuring parenting was robust and generalizable. First, the association emerged using both child reports (Study 1) and parental reports (Study 2) of parenting. Second, although parents with

child-invested contingent self-esteem reported lower self-esteem, the contingent nature of their self-esteem, rather than its level, carries the association with psychologically controlling strategies. The association between child-invested contingent self-esteem and achievement-oriented psychological control was obtained in samples of both elementary and secondary school children, suggesting that the relation can be generalized across different age groups. This association was also invariant across parental and child gender. Consistent with previous research (Soenens et al., 2010), Study 2 found that fathers scored higher than mothers on achievement-oriented psychological control. In spite of this mean-level difference, associations with parental child-invested contingent self-esteem were equivalent across parental gender and child gender.

This study also built on previous work by including a longitudinal examination of parental child-invested contingent self-esteem in a naturalistic context. Parents' child-invested contingent self-esteem covaried with increases in parents' intention to use controlling practices after having been provided with feedback concerning the child's achievement. This covariation was observed regardless of how well children had actually performed on the exams or how successful they were according to the parents. At first sight the findings seem inconsistent with Ng et al. (2014), who did not find a longitudinal effect of parental child-invested contingent self-esteem. However, Ng et al. (2014) only examined whether initial levels of child-invested contingent self-esteem predicted increases in psychologically controlling parenting. Here, the authors were also unable to find such an effect. However, it was found that increases in child-invested contingent self-esteem developed in tandem with increases in achievement-oriented psychological control, an effect that was not explored by Ng et al. (2014).

The design of Study 2 also provided the opportunity to examine the interplay between child achievement and parental child-invested contingent self-esteem. It was found that parents high on child-invested contingent self-esteem engaged in achievement-oriented psychological control irrespective of whether the child was objectively performing well or was perceived by parents as performing well. The use of achievement-oriented psychological control irrespective of the child's achievement may signal to children that parents have little confidence in their ability to do well. A more benign interpretation of this finding would be that parents high on child-invested contingent self-esteem stay involved in their children's schooling, even when the child performs poorly. However, this type of involvement is unlikely to support children's competence and motivation. In contrast, given the pressuring and intrusive nature of psychological control, psychologically controlling parenting likely undermines children's motivation and achievement (Katz, Kaplan, & Buzukashvily, 2011; Pomerantz, Moorman, & Litwack, 2007). Notably, parent-perceived academic success, rather than the child's actual achievement, was related to parents' increased intention to rely on psychologically controlling practices. This finding implies that parents only increase their psychologically controlling practices to the extent that they perceive the child's exam scores as a failure. More research is needed to explore the origins of parent-perceived academic success and failure in greater detail as such insights might be important to understand why some parents are relatively more controlling.

### **Antecedents of Child-Invested Contingent Self-Esteem**

Given the detrimental parental style associated with child-invested contingent self-esteem, it is important to address the origins of this parental orientation. The parents'

own controlled functioning (i.e., pressure from within) and the social pressure they experience to be an achievement-promoting parent (i.e., contextual pressure) were examined. As expected, parents with a controlled orientation more strongly invest their self-esteem in the achievements of their child. The controlled orientation was even predictive of increases in parental child-invested contingent self-esteem across time. Whereas it has already been shown that a controlled orientation is related to people's own contingent self-esteem (e.g., Hodgins et al., 2007), the present research suggests that control-oriented people also tend to hinge their self-esteem on the achievement of others. Unexpectedly, the autonomous orientation was unrelated to parental child-invested contingent self-esteem and to achievement-oriented psychologically controlling parenting (at least when controlling for the variance shared with a controlled causality orientation). These findings, therefore, suggest that an autonomous orientation does not buffer against the development of child-invested contingent self-esteem in parents.

Apart from parental differences in the controlled causality orientation, perceived social pressure to be an achievement-promoting parent also predicted parental child-invested contingent self-esteem. The notion that parents increasingly feel pressured to rear successful and highly achieving children has been popular in the media (Grolnick & Seal, 2008), yet the present study is among the first to address this idea empirically. The pressure to be an achievement-promoting parent can be conveyed through diverse sources and will likely depend on the dominating ideology within the society (Kasser et al., 2007). Specifically, the present research suggests that, if parents feel that people in their environment hold them accountable for their children's success, they are more likely to pressure their child to perform well, presumably because they feel that their own self-esteem is contingent on the child's successes. However, social pressure was only related to parental child-invested contingent self-esteem concurrently and did not predict increases in child-invested contingent self-esteem. Possibly, perceived social pressure from the environment is a relatively stable phenomenon that does not necessarily affect changes in child-invested contingent self-esteem.

### Limitations and Future Directions

Although part of the data relied on multiple informants, the studies were limited by the reliance on mainly self-report measures. To avoid possible response bias in future research behavioral measures of parenting are needed. Also, more objective measures relevant to the concept of contextual pressure (e.g., family income and educational level) would be interesting because our studies yielded conflicting results regarding the role of educational level. Higher educational level was negatively related to achievement-oriented psychological control in Study 1, but it was positively related to achievement-oriented psychological control in Study 2. More research is needed to unravel the undoubtedly complex role of contextual factors in the dynamics of controlling parenting.

Caution needs to be taken when generalizing the obtained pattern of findings to the broader population as it may primarily apply to the more self-selective group of participating parents. This is especially the case with regard to the results for fathers in Study 2, who might have been more strongly involved in their child's life than fathers in the general population. The sample of Study 1 was also limited in this regard because it was collected by undergraduate students, a procedure that may have resulted in a relatively homogenous sample of families (Bornstein, Jager, & Putnick, 2013).

Another concern is that the design of the studies did not allow for a truly causal test of effects of parental child-invested contingent self-esteem. Future research may experimentally activate parents' child-invested contingent self-esteem to examine its causal effect on psychologically controlling parenting (see, e.g., Grolnick, Price, Beiswenger, & Sauck, 2007 for steps in this direction). Furthermore, the presumed antecedents of parental child-invested contingent self-esteem (i.e., social pressure and the controlled orientation) could also be manipulated to evaluate their role as antecedents of child-invested contingent self-esteem.

### IMPLICATIONS FOR PRACTICE

Given that parental child-invested contingent self-esteem was related to a detrimental parenting style, the authors suggest that parents and children would benefit when parents are advised not to invest their self-esteem in the performance of their child. Training programs that allow parents to become more aware of pressures in their own functioning may serve as a buffer against the activation of child-invested contingent self-esteem. Given that parents' use of control and their self-worth are determined at least partly by the ideology prevailing in society (Bronfenbrenner, 1979), a shift away from values focused on performance was advocated. Downplaying an emphasis on competition and excellence at the societal level may help to reduce pressures on parents (Grolnick & Seal, 2008). Also, it would be better not to make the parents of children who fail to achieve particular standards feel accountable for their children's functioning, as if they failed to meet their parental responsibility. Moreover, it was suggested that future research could try to identify factors that relate negatively to parents' child-invested contingent self-esteem as those factors may help to protect parents against the detrimental effects of social pressures and pressures in their own functioning. One such factor might be parents' trust in the child's natural and spontaneous growth tendency, an orientation that has been referred to as "trust in organismic development" (Landry et al., 2008).

The present research showed that parents' own controlled causality orientation and perceived social pressure to rear highly achieving children served as antecedents of their child-invested contingent self-esteem. When parents' self-worth is implicated in the performance of their child, parents are more likely to make use of psychologically pressuring strategies in the achievement domain over time, even when controlling for actual and perceived child performance. Given the undermining effect of psychologically controlling parenting on children's achievement and well-being, there is a need for both scholars and practitioners to attend to the phenomenon of parental child-invested-contingent self-esteem and its developmental origins.

### ADDRESSES AND AFFILIATIONS

Dorien Wuyts, Department of Developmental, Personality and Social Psychology, Ghent University, H. Dunantlaan 2, 9000 Ghent, Belgium. E-mail: [Dorien.Wuyts@ugent.be](mailto:Dorien.Wuyts@ugent.be). Maarten Vansteenkiste and Bart Soenens are also at Ghent University. Avi Assor is at Ben-Gurion University, Israel.

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