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Wouters, S., Colpin, H., Luyckx, K., & Verschueren, K. (2018). Explaining the relationship between parenting and internalizing symptoms: The role of self-esteem level and contingency. *Journal of Child and Family Studies*, 27, 3402-3412.

Explaining the relationship between parenting and internalizing symptoms:

The role of self-esteem level and contingency

Acknowledgements: Preparation of this manuscript was supported by Grant 12P3415N from the Research Foundation – Flanders (FWO; Belgium), which identified the first author of this manuscript as a Postdoctoral Fellow of the FWO.

Abstract

Internalizing symptoms, such as depressive and anxiety symptoms are prevalent in adolescence. We examined the mediational role of two self-esteem dimensions, that is, level and contingency, in comprehensive models linking parenting to adolescent internalizing symptoms. Using a cross-sectional design, a large sample of secondary school students ($N = 1958$; 56.28% female; mean age = 15.31 years) completed questionnaires on maternal responsiveness, psychological control, conditional regard, as well as on their own self-esteem, depressive and anxiety symptoms. Analyses yielded both direct and indirect effects of adolescent-reported parenting on internalizing symptoms. More perceived responsiveness was uniquely associated with higher self-esteem level which, in turn, predicted less depressive and anxiety symptoms. Perceived conditional negative and positive regard and psychological control were uniquely related to self-esteem level (negative relations) and contingency (positive relations) which, in turn, predicted more internalizing symptoms. In general, our study supported the mediational role of self-esteem level and contingency in the link between parenting and internalizing symptoms. Whereas low self-esteem increased adolescents' vulnerability for both depressive and anxiety symptoms, high self-esteem contingency appeared as a unique vulnerability factor for anxiety symptoms.

Key-words: *parenting, self-esteem level, self-esteem contingency, depression, anxiety.*

Introduction

Internalizing symptoms, such as depressive symptoms and symptoms of anxiety, are globally on the rise (World Health Organization, 2017). They are prevalent in adolescence and may put adolescents at risk for developing chronic mental health disorders later on in life (Asselmann & Beesdo-Baum, 2015; Holsen, Kraft, & Vittersø, 2000). In accordance with bio-ecological models (Bronfenbrenner & Morris, 2006), previous research has identified parenting as an important predictor of adolescents' adjustment (Steinberg, 2001). Two parenting dimensions considered crucial for adolescents' development are psychological control and responsiveness (Baumrind, 1991; Hunter, Barber, & Stolz, 2015; Steinberg, 2001). Psychological control is considered a negative dimension capturing the degree to which parents control their children's thoughts and emotions through guilt induction, shaming, or love withdrawal (Barber & Harmon, 2002; Soenens, Vansteenkiste, Luyten, Duriez, & Goossens, 2005). Accordingly, previous research in adolescence has established psychological control to be positively related to depressive and anxiety symptoms (e.g., Mabbe, Soenens, Vansteenkiste, & Van Leeuwen, 2016; Pettit, Laird, Dodge, Bates, & Criss, 2001). Responsiveness is a positive parenting dimension referring to parents' expression of emotional support, warmth and love towards their children. Previous studies have consistently shown responsiveness to be negatively related to depressive symptoms (e.g., Mcleod, Weisz, & Wood, 2007; Soenens et al., 2005), whereas its relationship with anxiety has been inconsistent suggesting only a weak negative relationship (e.g., McLeod et al., 2007; Nelemans et al., 2014).

Another parenting practice recently receiving increasing attention is parental conditional regard (CR). Parental CR refers to regard from parents that is dependent or conditional on children's compliance with their parents' demands and expectations and has been linked to adolescent maladjustment (Assor & Tal, 2012; Kanat-Maymon, Roth, Assor, & Raizer, 2016). Research has identified two forms of CR: conditional positive and conditional negative regard. Conditional positive regard refers to parents providing more affection than usual when their child meets their demands, whereas conditional negative regard refers to parents withdrawing affection when their child does not meet their expectations (Assor & Tal, 2012; Roth, Assor, Niemiec, Ryan, & Deci, 2009).

The effect of conditional negative regard seems evident. Adolescents whose parents tend to ignore them or tend to give them less love and appreciation than usual when they fail to meet their

standards, are more likely to be unhappy. As this withdrawal of affection, characteristic of conditional negative regard, is considered one aspect of the broader construct of psychological control (also comprising guilt induction and shaming), positive relations with internalizing symptoms may be expected (Assor, Kanat-Maymon, & Roth, 2014). Accordingly, previous studies have clearly shown detrimental effects of conditional negative regard on students' adjustment and motivation (Assor & Tal, 2012; Roth et al., 2009). The effect of conditional positive regard, however, is less straightforward. Parents who provide more love and appreciation when children comply with their demands, may succeed in making their children behave as desired and in making their children feel temporarily satisfied. However, conditional positive regard is also likely to come with significant affective costs. Adolescents receiving such conditional positive regard may feel pressured to behave in certain ways and may also feel anxious as they perceive that they are appreciated only on certain terms. Additionally, they may be at risk for depression as they fail to receive the unconditional love they seek from their parents (Assor et al., 2014). Limited empirical evidence supports these hypotheses, showing that conditional positive regard is positively related to controlling types of motivation and indicators of maladjustment (e.g., shame or devaluation after failure and resentment towards parents; Assor & Tal, 2012; Roth et al., 2009). Yet, to our knowledge, there is no research directly examining the link between parental CR and internalizing symptoms.

Regarding the relation between parenting and internalizing symptoms, previous research seems to suggest a mediational role for self-esteem. Self-esteem (SE) is defined "as an individual's subjective evaluation of her or his worth as a person" (Trzesniewski, Donnellan, & Robins, 2013, p. 60) and its level may vary from high (i.e., a positive view of oneself) to low (i.e., a negative view of oneself). Another dimension of SE (besides its level), is SE contingency which is defined as the tendency to let one's SE level depend on meeting external or internal standards (Crocker & Wolfe, 2001). Previous research has established that SE contingency and SE level are two clearly distinct dimensions, which tend to be only moderately (negatively) correlated (e.g., Burwell & Shirk, 2006; Wouters, Duriez, et al. 2013). With regard to SE level, research has shown that it mediates the relation between traditional parenting dimensions (such as psychological control and responsiveness) and depressive symptoms (Garber, Robinson, & Valentiner, 1997; Hunter et al., 2015; Plunkett, Henry, Robinson, Behnke, & Falcon, 2007). Although SE

contingency may also be expected to play such a mediational role and anxiety symptoms are prevalent in adolescence as well, both sets of variables have not been investigated in such mediational models.

Based on Self-Determination Theory (SDT; Deci & Ryan, 2000) and attachment theory (Bowlby, 1969/1982), scholars agree that adolescents develop higher SE when their parents are warm and accepting. Not only do such parents fulfill children's fundamental needs for competence and relatedness, they also provide them with a sense of being valued and a secure base for exploring their competencies. SE development is put at risk, however, when parents use intrusive parenting strategies to control their children. These parents frustrate their children's basic psychological needs and create an inconsistent or even unsafe home environment. Accordingly, previous research has demonstrated that psychological control is negatively and responsiveness positively related to SE level (e.g., Bean, Bush, McKenry, & Wilson, 2003; Garber et al., 1997; Soenens et al., 2005; Wouters, Doumen, Germeijs, Colpin & Verschueren, 2013).

Researchers have further contended that parents may affect their children's SE contingency (Crocker & Wolfe, 2001; Shirk, Gudmundsen, & Burwell, 2005). SDT predicts that adolescents whose basic psychological needs are thwarted by their parents may satisfy their needs for relatedness or competence by, for instance, pursuing social approval or academic competence and staking their self-worth on these domains (Deci & Ryan, 2000; Kanat-Maymon et al., 2016). In line with these predictions, Wouters et al. (2014) showed that the less adolescents' basic psychological needs were satisfied, the more contingent SE they showed. Thus far, only limited empirical evidence is available to support an association between parenting and SE contingency suggesting that psychological control relates positively to SE contingency (McCormick, Turner, & Foster, 2015; Shirk et al., 2005; Wouters, Doumen et al., 2013; Wouters, Verschueren, Briers, & Janssen, 2016).

Yet, no studies have directly examined the link between parental conditional negative and positive regard, on the one hand, and SE level or SE contingency, on the other. This is surprising considering that both forms of conditional regard (CR) are expected to thwart adolescents' needs for autonomy and that conditional negative regard is hypothesized to also thwart adolescents' need for relatedness and conditional positive regard to at least not truly satisfy this need (Kanat-Maymon et al., 2016). Furthermore, considering that SE contingency refers to feelings of self-worth being conditional upon

meeting external or internal standards, a link with parental affection being conditional upon meeting certain parental demands, seems straightforward. That is, adolescents experiencing high parental CR may learn that they are only worthy (to be loved) when meeting certain conditions. Assor, Roth and Deci (2004) did provide some evidence for a link between parental CR and SE. In a sample of college students, they found that higher levels of parental CR (without distinguishing between positive and negative regard) generally resulted in more unstable student SE – which has been linked to SE contingency (Kernis, Lakey, & Heppner, 2008).

In sum, parenting seems to predict SE level and contingency. Both SE dimensions, in turn, have been related to depressive and anxiety symptoms. Most research attention has been oriented towards the negative link between SE level and internalizing symptoms (e.g., Orth, Robins, & Roberts, 2008; Zeigler-Hill, 2013), although more recent studies have increasingly focused on consequences of SE contingency for individuals' adjustment. To perceive themselves as good and worthy, individuals with high SE contingency need to fulfill certain criteria (Zeigler-Hill, Stubbs, & Madson, 2013). Such contingent functioning may result in SE boosts when being successful, but it may also lead to SE drops when failing. As no individual is successful all the time, this functioning may put adolescents at risk for maladjustment. Basically, one's worth as a person is at stake and thus negative consequences are expected when one's self-related criteria are not met (Burwell & Shirk, 2006; Crocker & Wolfe, 2001). Accordingly, research has demonstrated that higher SE contingency is associated with mental and physical ill-being (e.g., Burwell & Shirk, 2006; Lakey, Hirsch, Nelson, & Nsamenang, 2014; Lawrence & Williams, 2013; Tomaka, Morales-Monks, & Shamaley, 2013).

Yet, research has demonstrated that SE contingency not always has a *unique* effect above and beyond SE level, for instance, on depressive symptoms (Bos et al., 2010; Sowislo, Orth, & Meier, 2014; Wouters, Duriez, et al., 2013). Although these findings suggest that the role of SE contingency beyond SE level is limited for depressive symptoms, conclusions may be different for anxiety symptoms. As individuals with high SE contingency tend to be actively motivated and eager to validate their self-related goals (Lawrence & Williams, 2013), they may typically be more approach-oriented and anxious ("I have to reach my standards, but I am afraid that I may not succeed") than avoidance-oriented and depressed ("I will not even try to reach my standards, because I am no good"). In line with this reasoning, Bos et al.

(2010) found a unique cross-sectional main effect of early adolescents' SE contingency on anxiety symptoms beyond the significant main effect of SE level.

In the present study, we contribute to previous research by examining the mediational role of two psychological risk factors, that is, SE level and contingency, in comprehensive mediation models linking parenting to adolescent internalizing symptoms (see Figure 1). As such, the added value of the construct of CR beyond traditional parenting dimensions could also be established. Specifically, we hypothesized responsiveness and psychological control to be unique predictors of SE level, whereas conditional positive and negative regard are assumed to be unique predictors of SE contingency. We also assumed SE level to be negatively related to depressive and anxiety symptoms, whereas SE contingency would be primarily linked to an anxious need to reach one's self-related goals and thus *uniquely* linked to more anxiety symptoms, but not necessarily more depressive symptoms. Additionally, we hypothesized responsiveness to relate negatively and psychological control and CR to relate positively to depressive and anxiety symptoms. Finally, we hypothesized significant sex differences. Girls may be more at risk for depressive and anxiety symptoms and for low SE and high SE contingency than boys. Moreover, girls may report more positive parenting than boys (i.e., perceiving their mothers as more responsive and less psychologically controlling). As we had no clear expectations for sex differences in parental conditional regard, these differences were explored.

[Insert Figure 1 about here]

Method

Procedure

A large sample of high schools students was recruited in five secondary schools in the Dutch-speaking part of Belgium. Students completed online or paper-and-pencil questionnaires in their school. Before students filled out the questionnaires, they signed a consent form which informed them that they could refuse or discontinue participation at any time. Students in Grades 7 to 10 were only allowed to participate if active parental consent was obtained.

Participants

In the final sample of 1958 students (56.28% female students), the proportion of students in each grade varied from 12.31 to 22.78%. Mean age of the adolescents was 15.31 years ($SD = 1.87$; range 11-19; 0.97% missing data). In our study, most students (81.77%) usually spoke only Dutch at home and 18.13% spoke another language at home (in combination with Dutch or not). Of the total sample, only 3.32% reported to speak a language associated with an ethnic minority group (i.e., Italian or an Arabic language). Based on a comparison with the percentage of people in Belgium between ages 15 and 34 speaking these minority languages as a first language (i.e., 11.18%; European Commission, 2012), ethnic minorities seem underrepresented in our sample. With regard to socio-economic background, 76.77% students in our sample reported that their mother's highest degree was a degree in higher education, whereas 36.5 to 50.9% of Flemish females between 26 and 64 years have a degree in higher education according to Eurostat. As such, the socioeconomic status of our sample seems higher than in the general Flemish population.

Measures

Parenting. Perceived maternal psychological control (8 items) and responsiveness (7 items) were measured with two subscales from a Dutch parenting questionnaire (Soenens et al., 2004; Soenens, Vansteenkiste, Luyckx, & Goossens, 2006) derived from the Children's Report of Parenting Behavior Inventory (Schaefer, 1965) and the Youth Self-Report (Barber, 1996). A 5-point Likert-type rating scale ranging from 1 (*completely disagree*) to 5 (*completely agree*) was used. Sample items are 'My mother is always trying to change how I feel or think about things' (psychological control; $\alpha = .82$) and 'My mother makes me feel better after talking over my worries with her' (responsiveness; $\alpha = .89$). Both subscales were found to be reliable and valid in previous research (Soenens et al., 2006; Soenens et al., 2005; Wouters, Doumen et al., 2013). To assess perceived conditional positive and negative regard, we used an adjusted and translated version of Domain-specific Perceptions of Parental Conditional Regard Scale (DPCRS; Assor et al., 2004). Each scale consists of three items, rated on a 5-point Likert scale ranging from 1 (*completely disagree*) to 5 (*completely agree*). Sample items are 'My mother shows me more affection and approval than usual if I achieve something important' (conditional positive regard; $\alpha = .73$) and 'My mother shows me less affection than usual when I don't behave according to her expectations' (conditional negative regard; $\alpha = .73$). In line with previous research, we specifically focused

on perceived *maternal* parenting considering mothers as primary caregivers who impact their children's adjustment (del Barrio, Holgado-Tello, & Carrasco, 2016).

Self-esteem. Level of SE was measured with a Dutch version of the 10-item Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965; Van der Linden, Dijkman, & Roeders, 1983; e.g., 'On the whole, I am satisfied with myself'; $\alpha = .87$). Items were rated on a 4-point scale ranging from 1 (*does not apply to me at all*) to 4 (*applies to me very well*). Global SE contingency was measured using a shortened 7-item Dutch version of the Contingent Self-esteem Scale (CSS; Paradise & Kernis, 1999; Soenens & Duriez, 2012). Items were answered on a 5-point Likert scale ranging from 1 (*completely disagree*) to 5 (*completely agree*) ($\alpha = .80$). A sample item is 'My overall feelings about myself are heavily influenced by what I believe other people are saying or thinking about me'. Evidence supports the reliability and validity of the Dutch RSES (e.g., Vanhalst, Luyckx, Scholte, Engels, & Goossens, 2013; Wouters, Duriez et al., 2013). The Dutch version of the CSS was also reliable in previous studies, with Cronbach alphas ranging between .72 and .83 (Soenens & Duriez, 2012; Wouters, Duriez et al., 2013; Wouters, Duriez, Luyckx, Colpin, Bijttebier & Verschueren, 2014). In terms of validity, the Dutch CSS has been related to ill-being and psychopathology, much in the same way as other measures of SE contingency. Also, positive relations were found with perceived parental promotion of extrinsic goals as expected from (self-determination) theory (Wouters, Duriez, Luyckx, Colpin, Bijttebier & Verschueren, 2014). Further, CSS scores were only moderately correlated with scores for related, but distinct constructs, such as SE level (Soenens & Duriez, 2012; Wouters, Duriez et al., 2013).

Internalizing Symptoms. The 12-item Dutch version of the Center for Epidemiologic Studies Depression scale (CES-D; Roberts & Sobhan, 1992; Hooge, Decaluwé, & Goossens, 2000) was used to measure depressive symptoms ($\alpha = .83$). Respondents indicated how often they had experienced depressive symptoms during the past week on a 4-point scale ranging from 0 (*seldom or never*) to 3 (*most of the time or always*). A sample item is 'During the last week, I felt depressed'. Generalized anxiety symptoms were measured with a 9-item subscale from the Dutch version of the Screen for Child Anxiety Related Emotional Disorders (SCARED; Birmaher et al., 1997; Hale, Raaijmakers, Muris, & Meeus, 2005; $\alpha = .85$). Adolescents indicated how often they experienced these anxiety symptoms on a 3-point Likert scale, ranging from 1 (*almost never*) to 3 (*often*). A sample item is 'I worry about the future'. Previous

research has shown sufficient evidence for the reliability and validity of the Dutch versions of the CES-D and the SCARED (e.g., Hale et al., 2005; Wouters et al., 2016).

Data-analysis

For our main study variables, only 1.95% of the data at the scale level was missing. Participants with and without complete data were compared using Little's (1988) Missing Completely At Random (MCAR) test resulting in a normed chi square (i.e., χ^2/df) of 1.41, which suggests that values were missing at random. Hence, we used the Full Information Maximum Likelihood (FIML) procedure in Mplus 7.4. Standard fit indices were used to evaluate all models (Hu & Bentler, 1999; Kline, 2005). Nested models were compared using chi-square, CFI, and RMSEA difference tests (Δ values $\geq .02$ and $\geq .015$ are considered significant for CFI and RSMEA respectively; Chen, 2007; Cheung & Rensvold, 2002).

In the main analyses, we estimated comprehensive mediation models with SE level and SE contingency intervening between parenting dimensions and internalizing symptoms. All models contained perceived conditional positive regard, responsiveness, SE level and contingency, and depressive and anxiety symptoms, but differed in their inclusion of conditional negative regard vs. psychological control. As an exception, we examined psychological control and conditional negative regard in separate models because of conceptual reasons (one construct is considered a subcomponent of the other; Assor et al., 2014) and to avoid multicollinearity. First, perceived parenting was related to adolescent SE which, in turn, was related to internalizing symptoms (i.e., full mediation). Second, we added significant direct effects of parenting on internalizing symptoms, with non-significant direct effects of parenting on internalizing symptoms being trimmed (i.e., partial mediation). As previous theorizing and research suggests that parenting is related to internalizing symptoms through multiple pathways (e.g., self-esteem, but also self-regulation or emotion regulation; Garber et al., 1997), we also tested for possible significant direct effects of parenting on internalizing symptoms beyond any indirect effects through self-esteem. The fit of the full and partial mediational model were then compared and the final model was selected based on model fit and parsimony. Next, we performed bias-corrected bootstrapping with 5000 iterations on these final models to examine the significance of any indirect effects. In all models, we also allowed for significant gender and age effects. Considering our large sample size, we only considered effects with $p < .01$ to be of statistical significance. Finally, we checked for significant interactions between SE

contingency and level and between adolescent psychological control and responsiveness, but as none of these interactions was significant at $p < .01$, we did not include them in the final analyses. Data and materials related to the present study needed for evaluation and reproduction of the published research are available from the first author upon request.

Results

Table 1 presents all means, standard deviations, and correlations. Correlations were all in the expected direction. First, perceived maternal responsiveness related positively to SE level and was not significantly related to SE contingency. Perceived maternal psychological control and both forms of perceived conditional regard (CR) were negatively related to SE level, but positively to SE contingency. Furthermore, more perceived psychological control and conditional (positive and negative) regard were related to more depressive and anxiety symptoms, whereas more perceived responsiveness related to less depressive and anxiety symptoms. Finally, higher SE levels related to less depressive and anxiety symptoms, whereas more SE contingency related to more depressive and anxiety symptoms.

[Insert Table 1 about here]

Independent t -tests further indicated significant sex differences. Girls reported more perceived responsiveness ($M_g = 4.06$ vs. $M_b = 3.84$, $t(1894) = -6.10$, $p < .001$), SE contingency ($M_g = 3.48$ vs. $M_b = 3.21$, $t(1951) = -8.84$, $p < .001$), depressive symptoms ($M_g = 0.92$ vs. $M_b = 0.75$, $t(1893.54) = -7.62$, $p < .001$), anxiety symptoms ($M_g = 1.96$ vs. $M_b = 1.65$, $t(1884.78) = -14.61$, $p < .001$), and less psychological control ($M_g = 2.01$ vs. $M_b = 2.14$, $t(1895) = 3.75$, $p < .001$), lower conditional positive regard ($M_g = 3.13$ vs. $M_b = 3.26$, $t(1889) = 2.93$, $p < .01$), and lower SE ($M_g = 2.92$ vs. $M_b = 3.24$, $t(1922.33) = 13.02$, $p < .001$) than boys. In addition, correlations indicated that older adolescents reported less responsiveness ($r = -.11$, $p < .001$) and more psychological control ($r = .06$, $p < .01$), conditional negative regard ($r = .07$, $p < .01$), SE contingency ($r = .19$, $p < .001$) and anxiety ($r = .14$, $p < .001$) than younger adolescents. Consequently, in all following path models, we allowed for significant gender and age effects (non-significant gender and age effects were trimmed).

Analyses with conditional negative regard. In order to examine conditional negative regard, separate from psychological control, the latter was omitted in our first set of models. The fit of the full mediation model was acceptable, $\chi^2(10) = 122.87$; $N = 1937$; RMSEA = .08; 90%CI RMSEA = [.07-.09];

CFI = .97; SRMR = .03. Allowing for partial mediation, we added all direct effects of parenting on internalizing symptoms, retaining only those effects which were significant. The fit of this partial mediation model was good, $\chi^2(6) = 13.20$; $N = 1937$; RMSEA = .03; 90%CI RMSEA = [.01-.04]; CFI = 1.00; SRMR = .01, and significantly better than the fit of the full mediation model (full vs. partial mediation model: $\Delta\chi^2(4) = 109.67$, $p < .001$; $|\Delta\text{RMSEA}| = 0.051$; $|\Delta\text{CFI}| = 0.026$). Thus, we chose the partial mediation model as our final model (Final Model 1). As shown in Figure 2, more perceived conditional negative and positive regard related to lower SE and to more SE contingency. Results also yielded that less perceived responsiveness related to lower SE. Furthermore, SE level negatively predicted both outcomes beyond any effects of SE contingency, whereas SE contingency only positively predicted anxiety symptoms beyond SE level. Finally, more perceived conditional negative regard was directly linked to more depressive and anxiety symptoms and more perceived responsiveness to less depressive symptoms, but more anxiety symptoms.

[Insert Figure 2 about here]

Testing the significance of the indirect effects in Final Model 1 (see Table 2), using bootstrapping, we found that more perceived conditional negative and positive regard related to more depressive symptoms via SE level and to more anxiety symptoms via SE level and SE contingency. Additionally, less perceived responsiveness related to more depressive and anxiety symptoms via SE level. Estimates of the direct paths were highly similar to those without bootstrapping, except for the path between perceived conditional negative regard and anxiety symptoms, which was no longer significant at $p < .01$.

[Insert Table 2 about here]

Analyses with psychological control. Second, we estimated similar path models, but with perceived conditional negative regard being replaced by perceived psychological control. The fit of the full mediation model was acceptable, $\chi^2(10) = 200.29$; $N = 1937$; RMSEA = .10; 90%CI RMSEA = [.09-.11]; CFI = .96; SRMR = .04. Allowing for partial mediation, we added all direct effects of parenting on internalizing symptoms, retaining only those effects which were significant. The fit of this partial mediation model was good, $\chi^2(7) = 15.73$; $N = 1937$; RMSEA = .03; 90%CI RMSEA = [.01-.04]; CFI = 1.00; SRMR = .01, and significantly better than the fit of the full mediation model (full vs. partial mediation model: $\Delta\chi^2(3) = 184.56$, $p < .001$; $|\Delta\text{RMSEA}| = 0.074$; $|\Delta\text{CFI}| = 0.042$). Thus, we chose the partial mediation model

as our final model (Final Model 2). As shown in Figure 3, more perceived psychological control related to lower SE and to more SE contingency. As in Final Model 1, more perceived conditional positive regard related to lower SE and more SE contingency and less perceived responsiveness related to lower SE. SE level also negatively predicted both outcomes beyond SE contingency, whereas SE contingency only positively predicted anxiety symptoms beyond SE level. As one of the items from the CES-D may be considered as relating to self-esteem ('I felt just as good as other people'), we reran our final models using a scale score for depression excluding this item. The unique effect of SE contingency remained non-significant and small and the unique effect of SE level remained significant and large, demonstrating that deleting this item did not alter our findings. Finally, more perceived responsiveness was directly linked to more anxiety symptoms and more perceived psychological control to more depressive and anxiety symptoms.

[Insert Figure 3 about here]

Testing the significance of the indirect effects in Final Model 2 (see Table 2), using bootstrapping, we demonstrated that more perceived psychological control related to more depressive symptoms via SE level and to more anxiety symptoms via SE level and contingency. More conditional positive regard also related to more depressive symptoms via SE level and to more anxiety symptoms via SE contingency. Additionally, less perceived responsiveness related to more depressive and anxiety symptoms via SE level. Estimates of the direct paths were highly similar to those without bootstrapping, except for the path between perceived conditional positive regard and SE level, which was no longer significant at $p < .01$.

Discussion

We extended previous research by studying the mediational role of two important dimensions of SE, that is SE level and contingency, in comprehensive mediation models linking parenting to youth depressive and anxiety symptoms. As such, we contributed to parenting research in that we examined the unique effects of distinct parenting dimensions (i.e., conditional positive and negative regard, psychological control, and responsiveness) which have been shown to affect adolescents' adjustment. Also, we deepened our knowledge of SE contingency, as another dimension of SE alongside SE level.

Consistent with previous research (e.g., Mcleod et al., 2007; Shirk et al., 2005; Soenens al., 2012), results from the correlational analyses showed that adolescents perceiving their mothers as

psychologically controlling reported more depressive and anxiety symptoms and that adolescents perceiving their mothers as providing more support and warmth, experienced less depressive symptoms. The relation between perceived responsiveness and anxiety, which has been inconsistent in previous research (McLeod et al., 2007; Nelemans et al., 2014), was significant and negative in these preliminary analyses. Extending previous research and supporting our hypotheses, correlations further showed a positive link between both forms of conditional regard (CR) and internalizing symptoms. It seems that CR is always associated with affective costs, regardless of whether it is used in a negative (i.e., showing less affection when children do not comply with parental demands) or positive way (i.e., showing more affection when children do comply with parental demands).

Furthermore, the present results supported the mediational role of SE in comprehensive models linking perceived parenting dimensions to internalizing symptoms in youth. First, results revealed that adolescents perceiving their mother as providing less affection when not meeting her demands (i.e., conditional negative regard) or as providing more love and appreciation when complying with her demands (i.e., conditional positive regard), experienced both lower SE and more SE contingency – even when controlling for the effect of other parenting dimensions. In turn, this lowered SE was associated with more depressive and anxiety symptoms and the more contingent SE with more anxiety symptoms. This corresponds with our hypothesis that parents who withdraw their affection when their children do not comply with their demands, and thus try to control their children in a negative way, will probably thwart their children's need for autonomy and relatedness, thus leading to both more contingent and lower SE (Kanat-Maymon et al., 2016; Wouters et al., 2014). Additionally, these findings support the hypothesis that the parenting dimension of conditional positive regard has similar affective costs (Assor & Tal 2012; Kanat-Maymon et al., 2016; Roth et al., 2009; Wouters et al., 2014). Adolescents perceiving their mothers as warm and accepting, but only on certain conditions, probably learn that they are only worthy (to be loved) if they live up to certain external standards, and consequently, their SE also becomes lower and more contingent (Deci & Ryan, 2000; McCormick et al., 2015; Wouters, Doumen et al., 2013). In turn, this lowered self-esteem increases their risk for depressive symptoms and the constant need to prove themselves as worthy tends to make them more anxious. In sum, adolescents who are loved contingent

on their complying with parental demands, seem to internalize this conditionality and develop a sense of self-worth that is also more contingent.

Second, in line with previous research (e.g., McCormick et al., 2015; Wouters, Doumen et al., 2013; Wouters et al., 2016) and predictions from SDT, adolescents perceiving their mothers as more psychologically controlling experienced more SE contingency which, in turn, made them more likely to be anxious. Additionally, these adolescents had lower levels of SE which, in turn, made them also more likely to feel anxious and depressed. This confirms psychological control to be a unique, central key predictor of SE level and internalizing symptoms in addition to responsiveness (e.g., Bean et al., 2003; Soenens et al., 2005). Interestingly, these effects were highly similar, both in sign and strength, to those found for conditional negative regard. Hence, conditional negative regard may be regarded as a crucial subcomponent of the broader construct of psychological control, at least with regard to predicting SE and internalizing symptoms.

Fourth, results demonstrated that adolescents perceiving their mothers as less responsive showed lower levels of SE which, in turn, made them more likely to feel depressed. This corroborates predictions from SDT and attachment theory (e.g., Bean et al., 2003; Garber et al., 1997; Soenens et al., 2005; Wouters, Doumen et al., 2013). Additionally, this supports research revealing lower SE as a vulnerability factor for depressive symptoms (e.g., Orth et al., 2008; Zeigler-Hill, 2013). Interestingly, other parenting dimensions being equal, we also found a direct positive relation between adolescent-reported responsiveness and anxiety. Although surprising, this may suggest that, for some adolescents, high involvement (which is related to responsiveness) may be linked to more internalizing symptoms because it is interpreted as overinvolved parenting (Reitz, Dekovic, & Meier, 2005). However, we should be careful in interpreting this effect as the zero-order correlation between responsiveness and anxiety was significantly negative and both effects were small.

In addition, our results confirm that adolescent SE contingency uniquely predicts anxiety symptoms, beyond SE level. We found no unique effect of SE contingency on depressive symptoms beyond SE level, as expected. This is not surprising because adolescents with higher levels of SE contingency may be particularly approach-motivated and eager to validate their self-related goals as their self-worth is at stake. Such an attitude may especially give rise to anxiety (more activation) rather than

depression (de-activation). SE level, however, seemed important in predicting both depressive and anxiety symptoms beyond SE contingency, thus showing a more generic impact on adolescent internalizing problems. Nevertheless, our findings emphasize the need to consider both aspects of SE when targeting internalizing symptoms in adolescents.

Finally, we found significant sex differences. Girls reported more perceived positive parenting than boys in that they perceived more responsiveness and less psychological control and conditional positive regard than boys. This corresponds with research showing that parenting is perceived as more responsive and less psychologically controlling by girls than boys (e.g., Barber & Harmon, 2002; Beyers & Goossens, 2008). In line with previous research (e.g., Burwell & Shirk, 2009; Kling, Hyde, Showers, & Buswell, 1999; Nelemans et al., 2014; Wouters, Doumen et al., 2013; Wouters et al., 2014), girls also experienced higher levels of SE contingency, more internalizing symptoms, and lower levels of SE than boys.

Limitations and Future Research Directions

The present study also has some limitations. A first one is that we only used cross-sectional data. Hence, in future longitudinal studies, analyses with antecedents, mediators, and consequences measured at different time points (and controlling for autoregressive paths) or cross-lagged analyses may be used to examine the direction of effects. Some of these relations may indeed be reciprocal. Although research has generally found stronger support for vulnerability effects of both SE dimensions on depressive symptoms than for scar effects from depressive symptoms to SE (e.g., Sowislo & Orth, 2013; Wouters, Duriez et al., 2013), Sowislo and Orth (2013) found clear evidence for a reciprocal relation between SE level and anxiety. Additionally, empirical evidence suggests that parents not only affect their children, but that children also affect their parents (e.g., Serbin, Kingdon, Ruttle, & Stack, 2015), implying transactional processes. Nevertheless, we argue the current cross-sectional design is also suitable and meaningful as it may already shed light (1) on the unique associations of conditional negative vs. positive regard with multiple dimensions of SE and internalizing symptoms above and beyond any associations of traditional parenting dimensions, and (2) on the unique effects of SE level and contingency on depressive vs. anxiety symptoms. As such, this design may pave the way for further theory development and more informed (longitudinal) empirical research. Furthermore, although our current design is not focused on

development, the constructs under examination are developmental constructs considered important in adolescence. Second, we only used adolescent reports of parenting. Although previous research (e.g., Kuppens et al., 2009) suggests that parents may have interesting alternative viewpoints as compared to adolescents, it also highlights that parents may not always be fully aware of their children's view on their parenting and that adolescent reports thus remain crucial in their own right when predicting adolescent outcomes. Nevertheless, future research should try to replicate our findings using information from parents themselves or other informants (e.g., independent observers). Additionally, it should be verified whether our models are generalizable to parenting by fathers, as we focused specifically on parenting by mothers (considering mothers as the traditional primary caregivers). Finally, our study was conducted in a relatively high socioeconomic status and culturally homogeneous sample (most adolescents had highly educated mothers and they usually spoke Dutch at home). Possibly, effects may differ to some extent when studying adolescents from a less well-educated, ethnic minority, or non-Western background. Future research should thus look into the generalizability of our findings.

Despite these limitations, our findings confirm that whereas low SE increased adolescents' vulnerability for both depressive and anxiety symptoms, high SE contingency appeared as a unique vulnerability factor for anxiety symptoms. This suggests SE contingency has specific importance for the development of internalizing problems with a more activated (not deactivated) nature. Additionally, we extend previous research in at least two important ways. First, we showed that parental CR is a unique risk factor for SE and internalizing symptoms, above and beyond traditional parenting dimensions. Second, parental CR has been found to increase the risk for internalizing problems through both lowering SE level *and* increasing SE contingency. As such, our findings suggest that it is not enough for parents to provide warmth and love; it also matters *how* they provide this love, namely more or less conditionally. This way parents affect not only to what extent their children feel worthy, but also *how* their children generate this sense of worthiness (i.e., by staking it on meeting certain conditions).

Compliance with Ethical Standards

Conflict of Interest: The authors declare that they have no conflict of interest.

Ethical approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This article does not contain any studies with animals performed by any of the authors. The Social and societal ethics committee of the KU Leuven provided IRB approval for the study.

Informed Consent: Informed consent was obtained from all individual participants included in the study.

Author Contributions

SW conceived and designed the study, collected the data, performed the statistical analyses, interpreted the data, and took the lead in writing up the manuscript; HC, KL, and KV participated in the conception and design of the study, in data interpretation and critically revised the manuscript. All authors read and approved the final manuscript.

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Table 1

Intercorrelations, Means, and Standard Deviations of all Main Variables

	1	2	3	4	5	6	7	8
1. Psychological control	--							
2. Responsiveness	-.53**	--						
3. Conditional positive regard	.31**	.05	--					
4. Conditional negative regard	.73**	-.40**	.37**	--				
5. Global SE level	-.26**	.21**	-.09**	-.22**	--			
6. Global SE contingency	.18**	-.02	.22**	.20**	-.30**	--		
7. Depressive symptoms	.38**	-.26**	.12**	.27**	-.63**	.23**	--	
8. Anxiety symptoms	.22**	-.06*	.09**	.18**	-.60**	.43**	.59**	--
<i>M</i>	2.07	3.97	3.19	2.19	3.06	3.36	0.85	1.83
<i>SD</i>	0.75	0.80	0.95	0.90	0.57	0.68	0.51	0.49
<i>N</i>	1897	1896	1891	1892	1956	1953	1932	1942

Note. * $p < .01$ ** $p < .001$.

Table 2

Overview of all Significant Indirect Effects

Indirect paths				99% CIs	
<i>Final Model 1 with Conditional Negative Regard</i>					
Conditional positive regard	→	SE level	→	Depressive symptoms	[0.005, 0.077]
Conditional negative regard	→	SE level	→	Depressive symptoms	[0.038, 0.115]
Responsiveness	→	SE level	→	Depressive symptoms	[-0.156, -0.079]
Conditional positive regard	→	SE level	→	Anxiety symptoms	[0.005, 0.066]
Conditional negative regard	→	SE level	→	Anxiety symptoms	[0.033, 0.101]
Responsiveness	→	SE level	→	Anxiety symptoms	[-0.136, -0.069]
Conditional positive regard	→	SE contingency	→	Anxiety symptoms	[0.026, 0.062]
Conditional negative regard	→	SE contingency	→	Anxiety symptoms	[0.014, 0.050]
<i>Final Model 2 with Psychological Control</i>					
Conditional positive regard	→	SE level	→	Depressive symptoms	[0.001, 0.068]
Psychological control	→	SE level	→	Depressive symptoms	[0.065, 0.145]
Responsiveness	→	SE level	→	Depressive symptoms	[-0.129, -0.052]
Psychological control	→	SE level	→	Anxiety symptoms	[0.057, 0.128]
Responsiveness	→	SE level	→	Anxiety symptoms	[-0.113, -0.045]
Conditional positive regard	→	SE contingency	→	Anxiety symptoms	[0.027, 0.061]
Psychological control	→	SE contingency	→	Anxiety symptoms	[0.013, 0.050]

Note. SE = Self-esteem.

Figure 1. Hypothesized mediation model linking parenting to adolescent internalizing symptoms through self-esteem.

Figure 2. Final Model 1 with conditional negative regard. Standardized path coefficients are shown. Only significant paths are shown. Covariances between parenting dimensions, between the two SE dimensions, between our outcomes, and significant sex and age effects were estimated, but not shown for clarity purposes. $^{*}p < .01$. $^{**}p < .001$.

Figure 3. Final Model 2 with psychological control. Standardized path coefficients are shown. Only significant paths are shown. Covariances between parenting dimensions, between the two SE dimensions, between our outcomes, and significant sex and age effects were estimated, but not shown for clarity purposes. $*p < .01$. $**p < .001$.