

Kent Academic Repository

Full text document (pdf)

Citation for published version

Damian, Lavinia E. and Stoeber, Joachim and Negru, Oana and Băban, Adriana (2013) On the development of perfectionism in adolescence: Perceived parental expectations predict longitudinal increases in socially prescribed perfectionism. *Personality and Individual Differences*, 55 (6). pp. 688-693.

DOI

<https://doi.org/10.1016/j.paid.2013.05.021>

Link to record in KAR

<http://kar.kent.ac.uk/33985/>

Document Version

Author's Accepted Manuscript

Copyright & reuse

Content in the Kent Academic Repository is made available for research purposes. Unless otherwise stated all content is protected by copyright and in the absence of an open licence (eg Creative Commons), permissions for further reuse of content should be sought from the publisher, author or other copyright holder.

Versions of research

The version in the Kent Academic Repository may differ from the final published version.

Users are advised to check <http://kar.kent.ac.uk> for the status of the paper. **Users should always cite the published version of record.**

Enquiries

For any further enquiries regarding the licence status of this document, please contact:

researchsupport@kent.ac.uk

If you believe this document infringes copyright then please contact the KAR admin team with the take-down information provided at <http://kar.kent.ac.uk/contact.html>

Damian, L. E., Stoeber, J., Negru, O., & Băban, A. (2013). On the development of perfectionism in adolescence: Perceived parental expectations predict longitudinal increases in socially prescribed perfectionism. *Personality and Individual Differences*, 55(6), 688-693. DOI: 10.1016/j.paid.2013.05.021

On the development of perfectionism in adolescence:
Perceived parental expectations predict longitudinal increases
in socially prescribed perfectionism

Lavinia E. Damian

Babeş-Bolyai University

Joachim Stoeber

University of Kent

Oana Negru and Adriana Băban

Babeş-Bolyai University

Author Note

Lavinia E. Damian, Oana Negru, and Adriana Băban, Department of Psychology, Babeş-Bolyai University; Joachim Stoeber, School of Psychology, University of Kent.

The research for this article was supported with funds from the project “Modern Doctoral Studies: Internationalization and Interdisciplinarity” (POSDRU/107/1.5/S/76841) from the Sectoral Operational Programme for Human Resources Development 2007-2013, co-financed by the European Social Fund.

Correspondence concerning this article should be addressed to Lavinia Damian, Department of Psychology, Babeş-Bolyai University, Republicii 37, 400015 Cluj-Napoca, Romania. E-mail: lavinia.damian@sese.ro

Abstract

Adolescence is regarded a key period when individual differences in perfectionism develop. Yet, so far only a few longitudinal studies have investigated the development of perfectionism in adolescents. Using a longitudinal correlational design with 381 adolescents aged 15-19 years, the present study investigated whether perceived parental expectations and criticism predicted longitudinal increases in self-oriented and socially prescribed perfectionism over 7-9 months. Results showed that perceived parental expectations predicted longitudinal increases in socially prescribed perfectionism: Adolescents who perceived that their parents had high expectations of them at Time 1, showed increased socially prescribed perfectionism from Time 1 to Time 2 compared to adolescents who did not perceive their parents' having such high expectations. No such effect was found for self-oriented perfectionism. The findings provide supportive evidence for the social expectations model of the development of perfectionism regarding socially prescribed perfectionism, but not self-oriented perfectionism. Implications of this finding for the understanding of the development of perfectionism and future studies are discussed.

Keywords: perfectionism; parental expectations; parental criticism; adolescents; development; longitudinal data

1. Introduction

Perfectionism is a personality characteristic that entails striving for flawlessness, setting exceedingly high standards, and making overly critical evaluations (Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991). Perfectionism comes in different forms and has different dimensions and aspects (Enns & Cox, 2002). Two models of perfectionism have dominated the literature on perfectionism in the past two decades: Hewitt and Flett's (1991) and Frost et al.'s (1990) model. Hewitt and Flett's (1991) model considers personal and interpersonal aspects of perfectionism and differentiates three forms of perfectionism: self-oriented, other-oriented, and socially prescribed perfectionism. Frost et al.'s (1990) model also considers personal and interpersonal aspects, but differentiates six aspects of perfectionism: personal standards, organization, concern over mistakes, doubts about actions, parental expectations, and parental criticism.

Regarding the two models, it is important to note that in research on perfectionism in adolescence, the great majority of studies following Hewitt and Flett's (1991) model only regard self-oriented perfectionism (i.e., having perfectionistic expectations of oneself) and socially

prescribed perfectionism (i.e., having the perception that others have perfectionistic expectations of oneself that one must fulfill). This is because the Child–Adolescent Perfectionism Scale (Flett, Hewitt, Boucher, Davidson, & Munro, 2000), a widely-used scale to measure perfectionism in children and adolescents, only measures self-oriented and socially prescribed perfectionism, but not other-oriented perfectionism (i.e., having perfectionistic expectations of others).

Furthermore, recent theory and research suggests that two aspects of Frost et al.'s (1990) model—parental expectations and parental criticism—should be regarded as developmental antecedents of perfectionism rather than aspects of perfectionism itself (e.g., Rice, Lopez, & Vergara, 2005; Stoeber & Otto, 2006). Therefore, the present research focused on self-oriented and socially prescribed perfectionism and examined parental expectations and parental criticism as potential developmental antecedents of self-oriented and socially prescribed perfectionism.

1.1 The Development of Perfectionism

In the literature on perfectionism, a number of different models are discussed aiming to explain how perfectionism develops, but all agree that childhood and adolescence are key periods for the development of perfectionism and that parents play a pivotal role (Flett, Hewitt, Oliver, & Macdonald, 2002; Gilman & Ashby, 2006; Stoeber & Childs, 2011). One model discussed in this literature is based on social learning theory (Bandura, 1977). According to this model, children and adolescents develop perfectionism by observing and imitating their parents' perfectionism, by being constantly exposed to their parents' perfectionistic beliefs and behaviors, or by idealizing their parents and trying to be as perfect as they are. Other models are the social reactions and the anxious-rearing model (see Flett et al., 2002, for details). In addition, certain parenting styles (e.g., harsh and controlling parenting) are hypothesized to represent a risk factor for children and adolescents to develop maladaptive forms of perfectionism (Flett, Hewitt, & Singer, 1995; Kawamura, Frost, & Harmatz, 2002; Kenney-Benson & Pomerantz, 2005; Soenens et al., 2008; for reviews, see Flett et al., 2002, and Stoeber & Childs, 2011).

Another important model aiming to explain how perfectionism develops is the social expectations model (Flett et al., 2002). According to this model, perfectionism emerges as a consequence of contingent parental approval associated with parental expectations and criticism. Children whose parents have high expectations and criticize their children when they fail to meet their high expectations are at risk for developing perfectionism, through the internalization of these expectations and the associated negative self-evaluation. The fact that self-consciousness and awareness of social standards increase in adolescence makes it a period of elevated

susceptibility to others' achievement expectations.

In addition, it has been suggested that different forms and dimensions of perfectionism emerge through different mechanisms (Flett et al., 2002). In particular, it has been suggested that self-oriented perfectionism develops through a social learning mechanism whereas socially prescribed perfectionism develops through a social expectations mechanism. A number of qualitative and quantitative studies have provided preliminary evidence to this effect (e.g., Appleton, Hall, & Hill, 2010; Speirs Neumeister, 2004; Speirs Neumeister, Williams, & Cross, 2009; Vieth & Trull, 1999). For example, Speirs Neumeister and colleagues, conducting qualitative retrospective studies with gifted college students (Speirs Neumeister, 2004) and gifted high school students (Speirs Neumeister et al., 2009), found supporting evidence in the interviews conducted with the students that self-oriented perfectionism emerged through modeling of parental perfectionism whereas socially prescribed perfectionism emerged through high parental expectations. Appleton et al. (2010), conducting a quantitative cross-sectional study with adolescent athletes, found that adolescents' self-oriented perfectionism was predicted by parents' self-oriented perfectionism suggesting a social learning mechanism for the development of self-oriented perfectionism. Conversely, adolescents' socially prescribed perfectionism was predicted by parents' socially prescribed perfectionism and parents' other-oriented perfectionism, suggesting a social expectations mechanism for the development of socially prescribed perfectionism in addition to a social learning mechanism.

1.2 Open Questions

However, the evidence is not conclusive and not consistent, and there are a number of studies suggesting that parental expectations play a role in the development of both self-oriented and socially prescribed perfectionism. For example, in a retrospective study with university students, Enns, Cox, and Clara (2002) employed structural equation modeling with latent variables and found that perceived perfectionistic parenting (conceptualized as a latent variable combining high parental expectations for the child with high expectations parents had for themselves as parents) predicted both adaptive (combining self-oriented perfectionism with personal standards, organization, and other-oriented perfectionism) and maladaptive (combining socially prescribed perfectionism with concern over mistakes and doubts about actions) perfectionism. In contrast, perceived harsh parenting (combining parental criticism with over-control, lack of care, and high expectations) only predicted maladaptive perfectionism, but not adaptive perfectionism. Further inconclusive evidence comes from a number of studies that

investigated forms and dimensions of perfectionism closely related to self-oriented and socially prescribed perfectionism, namely personal standards (which are closely related to self-oriented perfectionism) and concern over mistakes, doubts about actions, and feelings of discrepancy between expectations and actual achievements (which are closely related to socially prescribed perfectionism; e.g., Frost, Heimberg, Holt, Mattia, & Neubauer, 1993; Hewitt & Flett, 2004). For example, McArdle and Duda (2004) found that the group of adolescents who perceived high parental expectations and criticism (in combination with other parental environment factors) had higher levels of concern over mistakes and doubts about actions. In a subsequent cross-sectional study with adolescent athletes, McArdle and Duda (2008) found that concerns over mistakes and doubts about actions were positively predicted by perceived parental expectations and criticism. In contrast, personal standards were predicted by perceived parental expectations only. Hence, what role parental expectations and criticism play in the differential development of self-oriented and socially prescribed perfectionism is still an open question.

Moreover, the empirical evidence so far is largely restricted to cross-sectional studies. To our knowledge, the only longitudinal study regarding parental influences on the development of perfectionism in adolescents focused on parental control (Soenens et al., 2008). All other studies were cross-sectional and often retrospective (e.g., university students remembering their parents' rearing style) which is problematic because such retrospections may reflect how people feel about themselves at the time the study is conducted instead of reflecting how they felt about their parents at the time (e.g., Halverson, 1988). Moreover, these studies examined university students, late adolescents at the threshold to young adulthood, or special samples of adolescents (e.g., academically talented adolescents, adolescent athletes), meaning that their findings may not generalize to other adolescents (for reviews, see Flett et al., 2002, and Stoeber & Childs, 2011).

1.3 The Present Study

Against this background, the aim of the present study was to investigate the development of perfectionism in a large sample of adolescents using a longitudinal design with two time points spaced 7-9 months apart. To address the question whether the social expectations model may explain the development of perfectionism in adolescence, the study focused on the influence of perceived parental expectations and criticism on self-oriented and socially prescribed perfectionism in adolescents. Perceived parental expectations represent individuals' subjective beliefs that their parents set high achievement standards for them. Conversely, perceived parental criticism represents subjective beliefs that failing to meet their parents' high standards will lead

to negative consequences such as disappointment and disapproval (Frost et al., 1990). Although the few longitudinal studies that have investigated perfectionism in adolescents (Herman, Wang, Trotter, Reinke, & Ialongo, in press; Soenens et al., 2008; Stoeber, Otto, & Dalbert, 2009) reported large-sized test-retest correlations of perfectionism indicating that perfectionism was a relatively stable personality characteristic, the test-retest correlations that Stoeber et al. (2009) found over a 5-8 month interval (self-oriented perfectionism: $r = .73$; socially prescribed perfectionism: $r = .52$) suggested that a significant percentage of variance remained to be explained. Hence, we regarded a 7-9 month interval as appropriate for our research. Based on previous findings (see Section 1.1), we expected perceived parental expectations and criticism to predict increases in socially prescribed perfectionism, but not in self-oriented perfectionism.

2. Method

2.1 Participants and Procedure

A sample of adolescents aged 15-19 attending high schools in Romania was recruited for a two-wave panel study. Data collection for Time 1 (T1) took place at the end of the second semester of 2011, and data collection for Time 2 (T2) 7-9 months later at the beginning of the second semester of 2012. The sample at T1 comprised 483 adolescents (196 male, 278 female, 9 no data). Mean age of adolescents was 16.7 years ($SD = 0.9$; range = 15-19 years). From this sample, 381 adolescents (147 male, 234 female) also completed data collection at T2. At both time points, adolescents completed the same paper-and-pencil questionnaire in the classroom during school hours. Adolescents received no compensation for participating in the study. Participation was voluntary: Adolescents could opt out of the study and do homework or other school activities instead, during the time others completed the questionnaire. The study was approved by the Faculty of Psychology and Educational Sciences of the first author's university and by the schools' principals through a written collaboration protocol.

2.2 Measures

To measure perceived parental expectations and criticism we used the scales capturing parental expectations (5 items; e.g., "My parents set very high standards for me") and parental criticism (4 items; e.g., "I am punished for doing things less than perfect") from the Frost Multidimensional Perfectionism Scale (Frost et al., 1990). Both scales have been used in numerous studies with adolescents where they have demonstrated reliability and validity (e.g., McArdle & Duda, 2008; Parker, 1997).

To measure perfectionism we used the 22-item Child-Adolescent Perfectionism Scale

(CAPS; Flett et al., 2000) capturing self-oriented perfectionism (12 items; e.g., “I try to be perfect in everything I do”) and socially prescribed perfectionism (10 items; e.g., “Other people think that I have failed if I do not do my very best all the time”). The scale has been used in numerous studies with adolescents where it has demonstrated reliability and validity (e.g., Essau, Leung, Conradt, Cheng, & Wong, 2008; Hewitt et al., 2002).

All scales were translated into Romanian following standard back-translation procedures as recommended by Brislin (1986) using two independent translators. A third person then finalized the Romanian version. Participants responded to all items on a scale from 1 (always false for me) to 5 (always true for me).

2.3 Preliminary Analyses

First, we inspected the questionnaires responses for missing data but found only 0.4% of all item responses missing. According to Graham (2009), even if the percentage of missing data is very small, using missing data approaches is still recommended because listwise deletion leads to loss of power and meaningful standard errors. Therefore, missing data were imputed with the expectation maximization algorithm (Graham, 2009; Little, Card, Preacher, & McConnell, 2009) before we computed scale scores by averaging answers across items.

Next, we examined if there were differences between adolescents who completed the questionnaire at both times (T1 and T2) and those who completed only T1. For this we created a dummy variable called “longitudinal sample” coded 1 for those who completed both T1 and T2 and coded 0 for those who completed only T1, and then conducted a MANOVA with longitudinal sample as between-participants factor on the T1 scale scores. Results of the MANOVA showed no significant differences between the two groups, indicating that the adolescents forming the longitudinal sample did not differ from those who did not complete T2 regarding the T1 scores. Furthermore, we examined the scores for multivariate outliers which can severely distort the results of correlation and regression analyses. Four adolescents (two male, two female) showed scores with a Mahalanobis distance larger than the critical value of $\chi^2(10) = 29.58, p < .001$ (Tabachnick & Fidell, 2007) and were excluded from the further analyses. With this, our final longitudinal sample comprised 377 adolescents (145 males, 232 females).

To examine possible gender differences in the variables and their relationships, we conducted two tests. First, we computed a MANOVA with gender as between-participants factor and the study variables as dependent variables which found no significant gender effects.

Second, we tested whether the variance–covariance matrices of male and female participants differed using Box’s M test. Because this test is extremely sensitive, differences were tested on the $p < .001$ level (Tabachnick & Fidell, 2007). Box’s M was nonsignificant with $M = 31.83$, $F(36, 3.19) = 0.86$, $p = .70$ indicating that the matrices did not differ. Therefore, data were collapsed across gender, but gender was controlled for in all analyses. Finally, we inspected the reliability (internal consistency) of the scale scores by computing Cronbach’s alphas. As Table 1 shows, all scores showed satisfactory alphas ($\alpha s > .70$; Nunnally & Bernstein, 1994).

3. Results

First, we computed bivariate correlations between all variables including gender and age (see Table 1). As expected, perceived parental expectations showed positive correlations with self-oriented and socially prescribed perfectionism within and across the two time points. In contrast, perceived parental criticism showed positive correlations only with socially prescribed perfectionism. Moreover, perceived parental expectations and parental criticism showed significant positive correlations within and across time, as did self-oriented and socially prescribed perfectionism. Finally, in line with previous findings (Herman et al., in press; Stoeber et al., 2009), both forms of perfectionism showed large-sized test-retest correlations indicating relative stability with socially prescribed perfectionism showing a smaller test-retest correlation than self-oriented perfectionism, $z = -2.37$, $p < .05$ (Steiger, 1980).

Next, following the procedures described by Little et al. (2009) regarding analyses of longitudinal panel data, we computed two hierarchical regression analyses to examine whether perceived parental expectations and criticism predicted increases in self-oriented and socially prescribed perfectionism over time (see Table 2). In both analyses, we examined residual changes (T2 perfectionism controlling for T1 perfectionism) and included gender and age as control variables. In Analysis 1, self-oriented perfectionism at T2 was the criterion and self-oriented perfectionism at T1 was entered in Step 1. Gender and age were entered in Step 2, and perceived parental expectation and criticism at T1 in Step 3. In Analysis 2, socially prescribed perfectionism at T2 was the criterion and socially prescribed perfectionism at T1 was entered in Step 1. Step 2 and 3 were the same as in Analysis 1. As expected, perceived parental expectations at T1 predicted increases in socially prescribed perfectionism from T1 to T2. In contrast, perceived parental criticism had no such effect. Moreover, neither perceived parental expectations nor perceived parental criticism predicted changes in self-oriented perfectionism over time.

4. Discussion

The aim of the present study was to examine the role social expectations play in the development of perfectionism in adolescence using a longitudinal design. For this, we examined whether perceived parental expectations and criticism predicted increases in self-oriented and socially prescribed perfectionism in a large sample of adolescents aged 15-19 years over a period of 7-9 months. Results showed that perceived parental expectations predicted longitudinal increases in socially prescribed perfectionism: Adolescents who perceived that their parents had high expectations of them at Time 1 showed increased socially prescribed perfectionism from Time 1 to Time 2 compared to adolescents who did not perceive their parents' having such high expectations. No such effect was found for self-oriented perfectionism. Moreover, no effect was found for parental criticism.

The findings provide supportive evidence for the social expectations model of the development of perfectionism (Flett et al., 2002), indicating that perceived parental expectations lead to increased socially prescribed perfectionism in adolescence. The findings suggest that adolescents' perceptions that their parents have perfectionistic expectations of them (perceived parental expectations) may generalize to perceptions that other people have perfectionist expectations of them and that other people's acceptance will depend upon meeting these expectations (socially prescribed perfectionism). Moreover, regarding the bivariate correlations, our findings were in line with findings from cross-sectional studies showing that both parental expectations and parental criticism are positively correlated with socially prescribed perfectionism and other dimensions of perfectionism closely related to socially prescribed perfectionism (e.g., Enns et al., 2002; McArdle & Duda, 2004, 2008; Parker, 1997). However, our longitudinal findings suggest that only parental expectations, but not parental criticism contribute to the longitudinal development of socially prescribed perfectionism.

In contrast, we found no support for findings from cross-sectional studies suggesting that parental expectations and criticism contribute to the longitudinal development of self-oriented perfectionism and dimensions of perfectionism closely related to self-oriented perfectionism (e.g., Parker, 1997; Rice et al., 2005). Similar to Parker (1997) and Rice et al. (2005), who found parental expectations to show positive bivariate correlations with perfectionistic personal standards, we found positive correlations between parental expectations and self-oriented perfectionism. However, we did not find any significant positive correlations between parental criticism and self-oriented perfectionism. Moreover and more importantly, neither parental

expectations nor parental criticism predicted longitudinal increases in self-oriented perfectionism.

Finally, it is important to note that the test-retest correlations we found for perfectionism corroborate previous findings (Herman et al., in press; Stoeber et al., 2009) indicating that socially prescribed perfectionism in adolescents has lower stability than self-oriented perfectionism which may suggest that socially prescribed perfectionism is more influenced by external factors (like parental expectations) whereas self-oriented perfectionism may be more influenced by internal factors (like personality traits; see Stoeber et al., 2009).

The present study has a number of limitations. First, the study relied on adolescents' perceptions of parental expectations and criticism, which may not represent an accurate account of parents' actual expectations and criticism. However, Appleton et al. (2010) found adolescents' perceptions of their parents' perfectionism to be a better predictor of adolescents' perfectionism than parents' actual perfectionism, suggesting that adolescents' perceptions may be more important than parents' actual beliefs and behaviors (see also Eccles, 1993). Still, future studies may profit from including self-reports from adolescents' parents in addition to adolescents' reports on their parents' beliefs and behaviors (cf. Soenens et al., 2008). Second, the study investigated adolescents in middle and late adolescence. Moreover, it focused on self-oriented and socially prescribed perfectionism. In addition, the present findings may be limited to the particular time span investigated (7-9 months). Future studies may need to replicate the present findings with adolescents in early adolescence (11-14 year olds) and other measures of perfectionism—such as personal standards, concern over mistakes, doubts about actions, and feelings of discrepancy (Frost et al., 1990; Slaney, Rice, Mobley, Trippi, & Ashby, 2001)—and examine different (particularly longer) time spans to investigate whether the present findings generalize to younger adolescents, other aspects of perfectionism, and different (longer) time spans. Moreover, because Romania is a post-socialist country and thus expected to be more collectivistic than Western European or North American countries (even though longitudinal research shows that adolescents from post-socialist countries are very fast becoming more individualistic; Fülöp & Ross, 2005), future studies need to examine whether the findings generalize to other nationalities and cultures. Finally, the present study did not include any variables that predicted longitudinal increases in self-oriented perfectionism. Because cross-sectional findings suggest that self-oriented perfectionism may develop through mechanisms of social learning, rather than social expectations (e.g., Speirs Neumeister et al., 2009), future

studies may profit from including measures of parents' perfectionism in addition to measures of parental expectations and criticism.

Notwithstanding these limitations, the present findings have important implications for the understanding of the development of perfectionism. Hewitt and Flett's (1991) model of perfectionism is a widely researched model dominating much of perfectionism research, and socially prescribed perfectionism is an important form of perfectionism that has been associated with a wide range of indicators of psychological maladjustment in adolescents, including suicide ideation (Roxborough et al., 2012). Hence, the finding that adolescents' perceptions that their parents expect them to be perfect are a contributing factor to the development of socially prescribed perfectionism makes a significant contribution to our understanding of the role that social expectations play in the development of this highly maladaptive personality characteristic.

References

- Appleton, P. R., Hall, H. K., & Hill, A. P. (2010). Family patterns of perfectionism: An examination of elite junior athletes and their parents. *Psychology of Sport and Exercise*, 11, 363-371. DOI: 10.1016/j.psychsport.2010.04.005
- Bandura, A. (1977). *Social learning theory*. Oxford, UK: Prentice-Hall.
- Brislin, R. W. (1986). The wording and translation of research instruments. In W. J. Lonner & J. W. Berry (Eds.), *Field methods in cross-cultural research* (pp. 137-164). Thousand Oaks, CA: Sage.
- Eccles, J. S. (1993). School and family effects of the ontogeny of children's interests, self-perceptions, and activity choice. In J. Jacobs. (Ed.), *Nebraska symposium on motivation: Vol. 40. Developmental perspectives on motivation* (pp. 145-208). Lincoln, NE: University of Nebraska Press.
- Enns, M. W., & Cox, B. J. (2002). The nature and assessment of perfectionism: A critical analysis. In G. L. Flett & P. L. Hewitt (Eds.), *Perfectionism* (pp. 33-62). Washington, DC: APA.
- Enns, M. W., Cox, B. J., & Clara, I. (2002). Adaptive and maladaptive perfectionism: Developmental origins and association with depression proneness. *Personality and Individual Differences*, 33, 921-935. DOI: 10.1016/S0191-8869(01)00202-1
- Essau, C. A., Leung, P. W. L., Conradt, J., Cheng, H., & Wong, T. (2008). Anxiety symptoms in Chinese and German adolescents: Their relationship with early learning experiences, perfectionism, and learning motivation. *Depression and Anxiety*, 25, 801-810. DOI:

10.1002/da.20334

- Flett, G. L., Hewitt, P. L., Boucher, D. J., Davidson, L. A., & Munro, Y. (2000). The Child–Adolescent Perfectionism Scale: Development, validation, and association with adjustment. Unpublished manuscript, Department of Psychology, University of British Columbia.
- Flett, G. L., Hewitt, P. L., Oliver, J. M., & Macdonald, S. (2002). Perfectionism in children and their parents: A developmental analysis. In G. L. Flett & P. L. Hewitt (Eds.), *Perfectionism* (pp. 89-132). Washington, DC: American Psychological Association.
- Flett, G. L., Hewitt, P. L., & Singer, A. (1995). Perfectionism and parental authority styles. *Individual Psychology*, 51, 50-60.
- Frost, R. O., Heimberg, R. G., Holt, C. S., Mattia, J. I., & Neubauer, A. L. (1993). A comparison of two measures of perfectionism. *Personality and Individual Differences*, 14, 119-126. DOI: 10.1016/0191-8869(93)90181-2
- Frost, R. O., Marten, P., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive Therapy and Research*, 14, 449-468. DOI: 10.1007/BF01172967
- Fülöp, M., & Ross, A. (Eds.) (2005). *Growing up in Europe today: Developing identities among adolescents*. Stoke-on-Trent, UK: Trentham Books.
- Gilman, R., & Ashby, J. S. (2006). Perfectionism. In G. G. Bear & K. M. Minke (Eds.), *Children's needs III* (pp. 303-312). Bethesda, MD: National Association of School Psychologists.
- Graham, J. W. (2009). Missing data analysis: Making it work in the real world. *Annual Review of Psychology*, 60, 549-576. DOI: 10.1146/annurev.psych.58.110405.085530
- Halverson, C. F., Jr. (1988). Remembering your parents: Reflections on the retrospective method. *Journal of Personality*, 56, 435-443. DOI: 10.1111/j.1467-6494.1988.tb00895.x
- Herman, K. C., Wang, K., Trotter, R., Reinke, W. M., & Ialongo, N. (in press). Developmental trajectories of maladaptive perfectionism among African American adolescents. *Child Development*. DOI: 10.1111/cdev.12078
- Hewitt, P. L., Caelian, C. F., Flett, G. L., Sherry, S. B., Collins, L., & Flynn, C. A. (2002). Perfectionism in children: Associations with depression, anxiety, and anger. *Personality and Individual Differences*, 32, 1049-1061. DOI: 10.1016/S0191-8869(01)00109-X
- Hewitt, P. L., & Flett, G. L. (1991). Perfectionism in the self and social contexts: Conceptualization, assessment, and association with psychopathology. *Journal of Personality and Social Psychology*, 60, 456-470. DOI: 10.1037/0022-3514.60.3.456

- Hewitt, P. L., & Flett, G. L. (2004). *Multidimensional Perfectionism Scale (MPS): Technical manual*. Toronto, Canada: Multi-Health Systems.
- Kawamura, K. Y., Frost, R. O., & Harmatz, M. G. (2002). The relationship of perceived parenting styles to perfectionism. *Personality and Individual Differences, 32*, 317-327. DOI: 10.1016/S0191-8869(01)00026-5
- Kenney-Benson, G. A., & Pomerantz, E. M. (2005). The role of mothers' use of control in children's perfectionism: Implications for the development of depressive symptoms. *Journal of Personality, 73*, 23-46. DOI: 10.1111/j.1467-6494.2004.00303.x
- Little, T. D., Card, N. A., Preacher, K. J., & McConnell, E. (2009). Modeling longitudinal data from research on adolescence. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology (Vol. 1: Individual bases of adolescent development, pp. 15-54)*. Hoboken, NJ: Wiley.
- McArdle, S., & Duda, J. L. (2004). Exploring social-contextual correlates of perfectionism in adolescents: A multivariate perspective. *Cognitive Therapy and Research, 28*, 765-788. DOI: 10.1007/s10608-004-0665-4
- McArdle, S., & Duda, J. L. (2008). Exploring the etiology of perfectionism and perceptions of self-worth in young athletes. *Social Development, 17*, 980-997. DOI: 10.1111/j.1467-9507.2007.00456.x
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory (3rd ed.)*. New York: McGraw-Hill.
- Parker, W. D. (1997). An empirical typology of perfectionism in academically talented children. *American Educational Research Journal, 34*, 545-562. DOI: 10.3102/00028312034003545
- Rice, K. G., Lopez, F. G., & Vergara, D. (2005). Parental/social influences on perfectionism and adult attachment orientations. *Journal of Social and Clinical Psychology, 24*, 580-605. DOI: 10.1521/jscp.2005.24.4.580
- Roxborough, H. M., Hewitt, P. L., Kaldas, J., Flett, G. L., Caelian, C. M., Sherry, S., & Sherry, D. L. (2012). Perfectionistic self-presentation, socially prescribed perfectionism, and suicide in youth: A test of the perfectionism social disconnection model. *Suicide and Life-Threatening Behavior, 42*, 217-233. DOI: 10.1111/j.1943-278X.2012.00084.x
- Slaney, R. B., Rice, K. G., Mobley, M., Trippi, J., & Ashby, J. S. (2001). The revised Almost Perfect Scale. *Measurement and Evaluation in Counseling and Development, 34*, 130-145. doi: n/a

- Soenens, B., Luyckx, K., Vansteenkiste, M., Luyten, P., Duriez, B., & Goossens, L. (2008). Maladaptive perfectionism as an intervening variable between psychological control and adolescent depressive symptoms: A three-wave longitudinal study. *Journal of Family Psychology*, 22, 465-474. DOI: 10.1037/0893-3200.22.3.465
- Speirs Neumeister, K. L. (2004). Factors influencing the development of perfectionism in gifted college students. *Gifted Child Quarterly*, 48, 259-274. DOI: 10.1177/0016986209352681
- Speirs Neumeister, K. L., Williams, K. K., & Cross, T. L. (2009). Gifted high-school students' perspectives on the development of perfectionism. *Roeper Review*, 31, 198-206. DOI: 10.1080/02783190903177564
- Steiger, J. H. (1980). Tests for comparing elements of a correlation matrix. *Psychological Bulletin*, 87, 345-251. DOI: 10.1037/0033-2909.87.2.245.
- Stoeber, J., & Childs, J. H. (2011). Perfectionism. In R. J. R. Levesque (Ed.), *Encyclopedia of adolescence* (Vol. 4, Part 16, pp. 2053-2059). New York: Springer.
- Stoeber, J., & Otto, K. (2006). Positive conceptions of perfectionism: Approaches, evidence, challenges. *Personality and Social Psychology Review*, 10, 295-319. DOI: 10.1207/s15327957pspr1004_2
- Stoeber, J., Otto, K., & Dalbert, C. (2009). Perfectionism and the Big Five: Conscientiousness predicts longitudinal increases in self-oriented perfectionism. *Personality and Individual Differences*, 47, 363-368. DOI: 10.1016/j.paid.2009.04.004
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston, MA: Pearson.
- Vieth, A. Z., & Trull, T. J. (1999). Family patterns of perfectionism: An examination of college students and their parents. *Journal of Personality Assessment*, 72, 49-67. DOI: 10.1207/s15327752jpa7201_3

Table 1
Bivariate Correlations and Descriptive Statistics

Variable	1	2	3	4	5	6	7	8	9
Time 1									
Perceived parental expectations and criticism									
1. Parental expectations									
2. Parental criticism	.51***								
Perfectionism									
3. Self-oriented perfectionism	.39***	.05							
4. Socially prescribed perfectionism	.71***	.49***	.44***						
Time 2									
Perceived parental expectations and criticism									
5. Parental expectations	.60***	.36***	.28***	.48***					
6. Parental criticism	.36***	.45***	.06	.33***	.41***				
Perfectionism									
7. Self-oriented perfectionism	.29***	.04	.65***	.31***	.36***	.10			
8. Socially prescribed perfectionism	.52***	.31***	.31***	.54***	.73***	.44***	.45***		
Control variables									
9. Age	-.02	.03	.03	.06	.05	.00	.08	.06	
10. Gender (female)	.02	.00	.09	.02	.02	.01	.08	.05	-.01
M	2.78	1.96	3.06	2.76	2.80	1.80	3.05	2.71	16.73
SD	0.83	0.72	0.54	0.65	0.97	0.78	0.62	0.70	0.89
Cronbach's alpha	.82	.74	.77	.81	.83	.71	.79	.81	—

Note. N = 377. All scores are mean scores (see Section 2.3 for details). Age = age at Time 1. Gender (female) was coded 0 = male, 1 = female.

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

Table 2
 Summary of Hierarchical Regression Analyses Predicting Self-oriented Perfectionism at Time 2 (Analysis 1) and Socially Prescribed Perfectionism at Time 2 (Analysis 2)

Predictor at Time 1	Time 2			
	Self-oriented perfectionism		Socially prescribed perfectionism	
	ΔR^2	β	ΔR^2	β
Step 1	.423***		.302***	
Criterion		.65***		.54***
Step 2	.005		.003	
Gender (female)		.02		.04
Age		.06		.03
Step 3	.003		.039***	
Perceived parental expectations		.06		.28***
Perceived parental criticism		-.02		-.01

Note. N = 377. Criterion = self-oriented perfectionism at Time 1 for Analysis 1, and socially prescribed perfectionism at Time 1 for Analysis 2 (see Section 3 for details). Gender (female) was coded 0 = male, 1 = female.

***p < .001.