



Interactive effect of perfectionism dimensions on depressive symptoms: A reply to Gaudreau and Thompson (2010)

Céline Douilliez^{a,b,*}, Françoise Lefèvre^{a,c}

^a Université Lille Nord de France, Villeneuve d'Ascq, France

^b UDL3, PSITEC, Lille, France

^c UDL3, URECA, Lille, France

ARTICLE INFO

Article history:

Received 25 October 2010

Received in revised form 1 February 2011

Accepted 3 February 2011

Available online 26 February 2011

Keywords:

Perfectionism

Personal standards

Evaluative concerns

Depression

ABSTRACT

Gaudreau and Thompson (2010) provided a 2×2 model of perfectionism that focuses on the interactive effect of two dimensions of perfectionism – personal standards perfectionism (PSP) and evaluative concerns perfectionism (ECP) – and distinguishes four sub-types of perfectionism. They evidenced an interactive effect of PSP and ECP on general negative affect, i.e., the effect of ECP is reduced when PSP is high. They also hypothesized a similar effect on a measure of psychopathology. We respond to Gaudreau and Thompson (2010) by testing this interactive effect on depressive symptoms. Analyses of data from a student sample ($N = 338$) failed to evidence an interactive effect of PSP and ECP on depressive symptoms. ECP was positively associated with depressive symptoms while a mild negative correlation between PSP and depression was observed. Although our results do not fully support Gaudreau and Thompson's 2×2 model, they suggest that some of the sub-types they proposed are relevant for predicting depressive symptoms.

© 2011 Elsevier Ltd. All rights reserved.

1. Introduction

Over the past decades, perfectionism has been predominantly conceptualized as a multidimensional personality trait (e.g., Hewitt, Flett, Besser, Sherry, & McGee, 2003, but see also Shafran, Cooper, & Fairburn, 2002). From the different facets identified across studies, two core dimensions emerge (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993). On the one hand, the positive strivings dimension (also called, perfectionistic strivings, Stoeber & Otto, 2006; Personal standards perfectionism, Gaudreau & Thompson, 2010) is viewed as a self-oriented motivation to set and strive for high standards (Frost et al. 1993; Gaudreau & Thompson, 2010) and on the other hand, the maladaptive evaluation concerns dimension (also called, perfectionistic concerns, Stoeber & Otto, 2006, evaluative concerns perfectionism, Gaudreau & Thompson, 2010) is a struggle for perfection, perceived as imposed by others, accompanied by self-criticism and doubts about one's capacity to achieve (Frost et al. 1993; Gaudreau & Thompson, 2010). A wealth of studies examined the positive and negative outcomes of each dimension according to a dimensional or a group-based approach (for a review, see Stoeber & Otto, 2006). Stoeber and Otto (2006)

proposed a conceptual framework that combined both approaches (See Fig. 1, left panel). They represent the two dimensions of perfectionism (perfectionistic strivings and perfectionistic concerns) as two orthogonal dimensions that can be combined to distinguish three groups of perfectionists: healthy perfectionists (high in perfectionistic strivings and low in perfectionistic concerns), unhealthy perfectionists (high in both dimensions) and non-perfectionist (low in perfectionistic strivings). In spite of its heuristic value, this framework entails some limitations. Firstly, the two dimensions are not perfectly independent and their inter-correlations can be high (e.g., $r = .45$, Bieling, Israeli, & Antony, 2004; $r = .58$, Gaudreau & Thompson, 2010). Second, the non-perfectionist group gathers under the same label two subgroups of individuals who are both low on perfectionistic strivings but differ on the perfectionist concerns dimension. Yet, this latter dimension is widely associated with negative outcomes. Therefore, such a distinction can lead to different conclusions in a group-based approach that prematurely considered both profiles as control. The first limitation had been addressed by statistically controlling for the other dimensions when examining the correlation between one dimension and a negative or positive outcome. If this strategy is statistically elegant, it does not take into account the potential interactive effects of both dimensions on positive as well as negative outcomes.

Recently, Gaudreau and Thompson (2010) proposed a 2×2 model of perfectionism that focuses on the interactive effect of

* Corresponding author. Address: Université Charles de Gaulle – Lille 3, UFR de Psychologie, Laboratoire PSITEC, Domaine universitaire Pont du Bois, BP 60149 – 59 650 Villeneuve d'Ascq, France. Tel.: +33 3 20 41 68 72; fax: +33 3 20 41 63 24.

E-mail address: celine.douilliez@univ-lille3.fr (C. Douilliez).

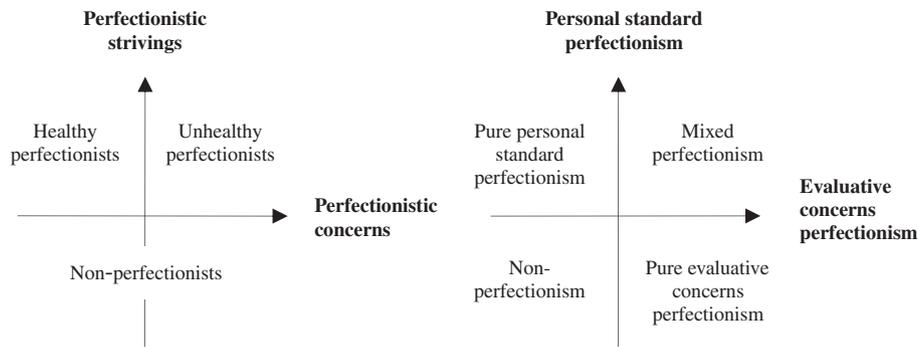


Fig. 1. Stoeber and Otto's model of perfectionism (left panel, adapted from Stoeber & Otto, 2006) and Gaudreau and Thompson's 2×2 model of perfectionism (right panel, adapted from Gaudreau & Thompson, 2010).

personal standard perfectionism (PSP) and evaluative concerns perfectionism (ECP). This model is displayed in Fig. 1 (right panel). This model allows one to distinguish four sub-types of perfectionism, reflecting “within-person combinations of the ECP and PSP dimensions” (Gaudreau & Thompson, 2010, p. 532): the non-perfectionism sub-type (combination of low ECP and low PSP), the pure¹ personal standard perfectionism sub-type (combination of low ECP and high PSP), the pure evaluation concerns perfectionism sub-type (combination of high ECP and low PSP) and the mixed perfectionism sub-type (combination of high ECP and high PSP). Note that the major difference with Stoeber and Otto's model (2006) comes from the distinction, within individuals low in PSP, between individuals with non-perfectionism and individuals with pure evaluation concern perfectionism.

Gaudreau and Thompson (2010) found principal effects of PSP and ECP and an interaction between both on psychological adjustment and maladjustment. Indeed, PSP was associated with higher psychological adjustment (i.e., academic self-determination, academic life-satisfaction, general positive affect) and lower psychological maladjustment (i.e., general negative affect) whatever the level of ECP was. Whereas ECP perfectionism was only associated with higher psychological maladjustment when PSP was low and associated with lower psychological adjustment whatever the level of PSP was. In other words, PSP would contribute to diminish the negative impact of ECP. According to Gaudreau and Thompson's typology, the most adjusted sub-type is the pure PSP and the less adjusted sub-type is the pure ECP.

One of the limitations of the study, underlined by the authors themselves, was that they used the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) as maladjustment indicator. The PANAS is a questionnaire designed to assess positive and negative affective states through adjectives (e.g., for positive states: alert, determined, inspired; for negative states: afraid, guilty, hostile). If the negative affect scale “represents a general dimension of subjective distress” (Gaudreau, Sanchez, & Blondin, 2006, p. 240), it is not designed to specifically measure psychopathological symptoms. The present study aims to address this limitation by testing this 2×2 model on a measure of depressive symptoms, a more robust indicator of maladjustment. The choice of this indicator was guided by the wealth of studies on the association between perfectionism and depression (for a review see Shafran & Mansell, 2002). However, none of these studies, to our knowledge, examine the interactive effect of PSP and ECP beyond the unique effects of each dimension.

Investigating the interactive effect of perfectionism dimensions and identifying sub-types of perfectionism related to depressive symptoms are particularly important to better understand the personality determinants of depression and to provide intervention strategies that target the right dimension(s) in the right direction. For instance, Gaudreau and Thompson's results (2010) speak in favour of interventions aiming at diminishing ECP dimension and increasing PSP dimension to alleviate maladjustment.

According to Gaudreau and Thompson's model, we predicted an interaction between PSP and ECP in predicting depressive symptoms. Particularly, we predicted that (1) pure PSP and non-perfectionism are similarly associated with depression; (2) pure ECP is more related to depression compared to mixed perfectionism and (3) pure ECP is more related to depression compared to non-perfectionism; (4) mixed perfectionism is associated with more depression compared to pure PSP.

2. Method

2.1. Participants and procedure

Three hundred and thirty-eight students (66.7% females) participated to the study on a voluntary basis without any compensation. Their mean age was 21.40 ($SD = 3.52$). This convenience sample was composed of students enrolled in a nurse school (41.7%) and in various programs at French universities and Grandes Ecoles (58.3%). Participants were approached in libraries and in student meetings. Students who accepted to participate received a booklet with basic information about the study and the three questionnaires: the French versions of the Hewitt and Flett's multidimensional perfectionism scale (HMPS; Hewitt & Flett, 1991), the Frost's multidimensional perfectionism scale (FMPS; Frost, Marten, Lahart, & Rosenblate, 1990) and the Beck depression inventory, second edition (BDI-II; Beck, Steer, & Brown, 1996). Participants were told that their responses would be entirely confidential and completely anonymous and that they are free to stop at any point without having to give a reason. After filling in the questionnaires, participants gave them back to the experimenter who debriefed them.

2.2. Measures

2.2.1. Perfectionism

The multidimensional perfectionism scale (HMPS; Hewitt & Flett, 1991; Labrecque, Stephenson, Boivin, & Marchand, 1998) and the multidimensional perfectionism scale (FMPS; Frost et al., 1990; French version: Bouvard et al., 2000) are two widely used questionnaires assessing multidimensional perfectionism. However, Gaudreau and Thompson (2010) did not use the original

¹ Note that “pure”, in Gaudreau and Thompson's (2010) terminology, refers to a sub-type of perfectionism characterizing individuals with coexisting high level of one dimension and low level of the other dimension.

HMPS and FMPS but their brief versions (Cox, Enns, & Clara, 2002). The brief version of the HMPS is composed of 2 scales: socially prescribed perfectionism (SPP, 5 items) and self-oriented perfectionism (SOP, 5 items). Participants had to answer on a 7-point Likert scale ranging from 1 (*disagree*) to 7 (*agree*), with higher sum scores reflecting higher level of perfectionism on the involved dimension. The brief FMPS is composed of 4 scales: concerns over mistakes (COM, 5 items), doubts about actions (DA, 3 items), parental pressure (PP, 5 items) and personal standards (PS, 5 items). Participants had to answer on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), with higher sum scores reflecting higher level of perfectionism on the involved dimension. In the present study, we selected the 23 items of those brief versions to make our study comparable to Gaudreau and Thompson's (2010) study. Missing values have been replaced by the participant mean at the involved sub-scale. To ensure the reliability of the brief French versions of HMPS and FMPS, we computed the internal consistency coefficient for each scale: SPP, $\alpha = .80$; SOP, $\alpha = .77$; COM, $\alpha = .79$; DA, $\alpha = .74$; PP, $\alpha = .78$; PS, $\alpha = .78$). All these coefficients are satisfactory. As this study was focused on two second-order dimensions of perfectionism, ECP and PSP, we checked whether an exploratory factor analysis with principal axis extraction and oblique rotation led to the hypothesized two-factor solution. As expected, the analysis revealed a two-factor solution explaining 67.93% of the variance. The COM ($\lambda = .51$), DA ($\lambda = .44$), PP ($\lambda = .85$) and SPP ($\lambda = .66$) sub-scales loaded on the same factor and were combined into the ECP dimensions ($\alpha = .72$). The PS ($\lambda = .79$) and SOP ($\lambda = .79$) sub-scales loaded on the same factor and were combined into the PSP dimension ($\alpha = .80$). All the cross-loadings were lower than .29 and the correlation between PSP and ECP was .49. Moreover, the correlations between the PSP and ECP computed from the brief and the full versions of the HMPS and the FMPS are high (.95 for PSP and .96 for ECP).

2.2.2. Depressive symptoms

The Beck depression inventory, second edition (BDI-II, Beck et al., 1996; French version: Editions du Centre de Psychologie Appliquée, 1996) is a 21-item self-reported questionnaire designed to measure the severity of current depressive symptoms in the previous week. The French version of the BDI-II has been shown to have good reliability and validity (Editions du Centre de Psychologie Appliquée, 1996).

3. Results

Preliminary analyses revealed four univariate outliers on depression score ($z > 3$, Tabachnick & Fidell, 2007) who were excluded from the analyses, and no multivariate outlier. A square root transformation was applied to depression scores in order to normalize their distribution. Descriptive statistics for all the measures are reported in Table 1.

A hierarchical regression was performed with depression symptoms as dependent variable. Consistent with Cohen, Cohen, West, and Aiken (2003), we mean-centered both predictors (ECP and PSP) before entering them in the first step. At the second step,

Table 1
Descriptive statistics and bivariate correlations.

	PSP	ECP	M	SD
PSP			37.04	9.27
ECP	.49***		47.25	12.98
BDI-II	.11	.43***	11.26	7.22

Note: PSP, personal standards perfectionism; ECP, evaluative concerns perfectionism; BDI, Beck depression inventory-2nd edition.

*** $p < .001$.

we entered their multiplicative term (i.e., $ECP \times PSP$) in order to assess the interactive effect of ECP and PSP.

Table 1 displays the results of the hierarchical regression. This analysis revealed a significant effect of ECP, $\beta = .50$, $t(330) = 8.93$, $p < .001$ and an effect of PSP, $\beta = -.15$, $t(330) = -2.59$, $p < .10$. However, the expected interaction was not significant, $\beta = -.04$, $t < 1$, ns. In order to test our specific hypotheses regarding the distinction among the four sub-types, we computed simple slopes (Cohen et al., 2003; Hayes & Matthes, 2009) that were used as planned contrasts (see Figs. 2 and 3). We controlled for family-wise Type I error by applying a Bonferroni correction. We considered significant effect at $\alpha = .01$.

To test whether pure PSP and non-perfectionism differ in terms of depressive symptoms (hypothesis 1), we examined whether the simple slopes (see Fig. 2) estimating the relationship between PSP and depression at low ECP (-1 SD) differed significantly from zero. Similar to Gaudreau and Thompson (2010), we did not observe any

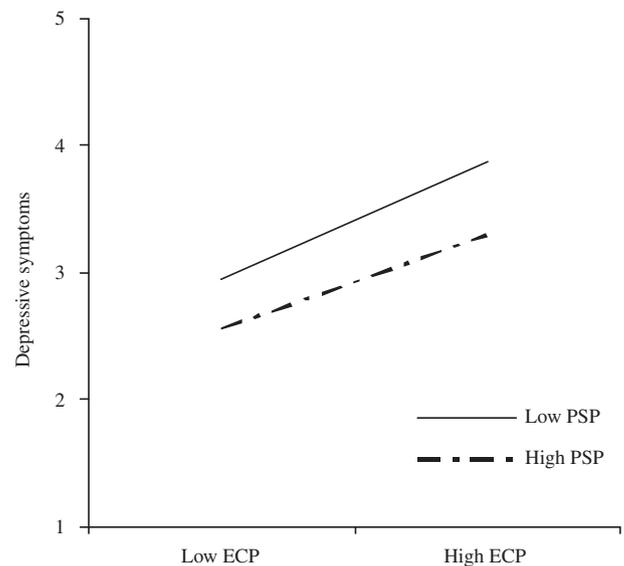


Fig. 2. Simple slopes estimating the relationship between ECP and depression at low (-1 SD) and high PSP ($+1$ SD). Note: The Y-axis variable is the square root of the depression score.

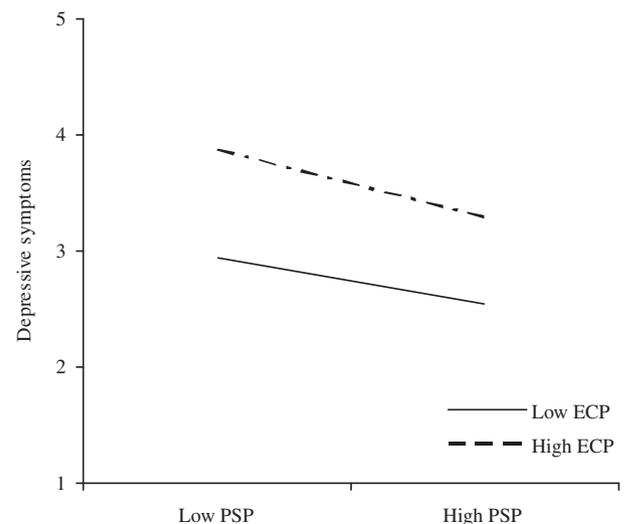


Fig. 3. Simple slopes estimating the relationship between PSP and depression at low (-1 SD) and high ECP ($+1$ SD). Note: The Y-axis variable is the square root of the depression score.

Table 2
Hierarchical regression analysis.

Predictor	ΔR^2	β
Step 1	.2 ^{***}	
PSP		-.14
ECP		.50 ^{***}
Step 2	.002	
PSP		-.15 [*]
ECP		.50 ^{***}
PSP \times ECP		-.04

Note: PSP, personal standards perfectionism; ECP, evaluative concerns perfectionism.

^{*} $p < .05$.
^{***} $p < .001$.

difference in the depressive symptoms between pure PSP and non-perfectionism ($B = -0.01$, 95% CI = -0.03 – 0.002 , $p > .01$, $\beta = -.16$) (Table 2).

To test whether pure ECP and mixed perfectionism differ in terms of depression (hypothesis 2), we examined whether the simple slope (see Fig. 2) estimating the relationship between PSP and depression at high ECP (+1 SD) differed significantly from zero. Contrary to Gaudreau and Thompson (2010), we failed to find a difference in depressive symptoms between pure ECP and mixed perfectionism ($B = -0.02$, 95% CI = -0.04 – 0.004 , $p > .01$, $\beta = -.26$).

To test whether pure ECP and non-perfectionism differ in terms of depression (hypothesis 3), we examined whether the simple slope (see Fig. 3) estimating the relationship between ECP and depression at low PSP (–1 SD) differed significantly from zero. As expected, results established that pure ECP was associated with a higher depression score compared to non-perfectionism ($B = 0.05$, 95% CI = 0.04 – 0.06 , $p < .001$, $\beta = .39$).

Finally, to test whether pure PSP and mixed perfectionism differ in terms of depression (hypothesis 4), we examined whether the simple slope (see Fig. 3) estimating the relationship between ECP and depression at high (+1 SD) differed significantly from zero. As expected, results established that mixed perfectionism was associated with a higher depression score compared to pure PSP ($B = 0.04$, 95% CI = 0.03 – 0.05 , $p < .001$, $\beta = .33$).

4. Discussion

The present study is the first study, to our knowledge, to test the unique and interactive effects of PSP and ECP dimensions of perfectionism on depressive symptoms according to the 2×2 model proposed by Gaudreau and Thompson (2010).

Our results failed to support an interactive effect of PSP and ECP on depressive symptoms. However, we replicated the positive relationship between ECP and depressive symptoms (e.g., Bieling et al., 2004; Enns, Cox, Sareen, & Freeman, 2001; Frost et al., 1993). Finally, we also observed a significant negative relationship between PSP and depressive symptoms. In the literature, results regarding the effect of PSP on measures of psychopathology are contradictory. Some findings suggest that PSP is a neutral form of perfectionism in that it is not associated with depressive symptoms (Bieling et al., 2004); other results support the notion that PSP is an healthy form of perfectionism that associated with less depressive symptoms (e.g., Gaudreau & Thompson, 2010; Hill et al., 2004) and finally some results suggest that PSP is associated with more depressive symptoms (e.g., Cox et al., 2002). The present results suggest that PSP is associated with less depressive symptoms. However, this effect is mild.

Turning to the simple slope analyses, our results revealed some differences between sub-types that are mostly consistent with those reported by Gaudreau and Thompson (2010). The findings revealed two differences on the three hypothesized. First, consistent

to Gaudreau and Thompson (2010), the non-perfectionism sub-type was associated with less depressive symptoms compared to the pure ECP sub-type (hypothesis 3). This result has important implications for group-based methodology. Indeed, as mentioned earlier, a wealth of studies has compared healthy and unhealthy perfectionism groups to a controlled group including non-perfectionism and pure MEC, as conceptualized by Stoeber and Otto (2006). Together with Gaudreau and Thompson's (2010) findings, the present results underscore the importance to differentiate between non-perfectionism and pure ECP in the analysis of the effect of perfectionism sub-types on maladjustment measures. Second, similar to Gaudreau and Thompson (2010), pure PSP was associated with less depressive symptoms than mixed perfectionism (hypothesis 4). Thus, the ECP can be qualified as unhealthy or maladaptive in that it is associated with more depressive symptoms whatever the level of PSP is.

Consistent with Gaudreau and Thompson (2010), non-perfectionism did not differ from pure PSP on depressive symptoms (hypothesis 1). However, in contrast to Gaudreau and Thompson (2010), mixed perfectionism did not differ from the pure ECP group in terms of depressive symptoms (hypothesis 2). This constitutes the only difference with Gaudreau and Thompson's results who reported that when ECP was high, high PSP was associated with less general negative affect compared to low PSP, whereas PSP did not modify the effect of high ECP on depressive symptoms. As mentioned earlier, one major difference between these two studies is the measure of negative outcome. In the present study, we examined depressive symptoms, a robust index of psychopathology, whereas Gaudreau and Thompson (2010) measured negative affectivity. We can postulate that depressive symptoms, unlike general negative affect, are so intrinsically associated with the features of ECP such as self-criticism that they cannot be moderated by the set of high standards, and their positive outcomes in terms of self-achievement (e.g., Bieling et al., 2004). However, to test this assumption, we need more research examining the processes underlying the association between both dimensions of perfectionism and positive and negative outcomes.

The present study suffers from some limitations. First, the present data are cross-sectional. Therefore, we cannot infer that ECP perfectionism causes depression. Although there is a wealth of studies suggesting that perfectionism is a causal factor in depression (for a review see Shafran & Mansell, 2002), longitudinal studies are needed to examine whether an interaction of ECP and PSP dimensions could play a causal role in depressive symptoms. Second, the present findings come from a student sample and therefore cannot be generalized to clinical samples. Although the structure of perfectionism seems to be similar in students and clinical samples (Cox et al., 2002), future work should test the 2×2 model within clinical populations.

To conclude, the present study supports the core relationship between ECP and depressive symptoms and suggests a weak but significant relationship between PSP and depressive symptoms and a lack of moderation of this relationship by PSP. Although this lack of interaction does not support Gaudreau and Thompson's (2010) 2×2 model applied to depressive symptoms results, similar conclusions emerged regarding the relevance to distinguish some sub-types, i.e., pure PSP and mixed perfectionism and pure ECP and non-perfectionism. This latter distinction challenges Stoeber and Otto (2006) that gathered both sub-types under the same label.

Accordingly, further research should examine whether the moderation of ECP by PSP is limited to mild psychological maladjustment, such as general negative affect, or whether it could also be observed with more specific psychological symptoms, such as anxiety, obsessive compulsive symptoms or sleep disturbances (Azevedo et al., 2010). It should particularly investigate the

processes through which a moderation effect takes or does not take place.

Acknowledgments

The authors thank Malvina Delmaire, Faustine Devinck and Salima Mokadem for their help in collecting the data and Pierre Philippot for his helpful comments on a previous version of this paper.

References

- Azevedo, M. H., Bos, S. C., Soares, M. J., Marques, M., Pereira, A. T., Maia, B., et al. (2010). Longitudinal study on perfectionism and sleep disturbance. *World Journal of Biological Psychiatry*, *11*, 476–485.
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for the beck depression inventory* (2nd ed.). San Antonio, TX: The Psychological Corporation.
- Bieling, P. J., Israeli, A. L., & Antony, M. M. (2004). Is perfectionism good, bad, or both? Examining models of the perfectionism construct. *Personality and Individual Differences*, *36*, 1373–1385.
- Bouvard, M., Robbe Grillet, P., Pham, S., Milliere, M., Amireche, S., Fanget, F., et al. (2000). Etude de validation d'une échelle multidimensionnelle du perfectionnisme. [Validation of a multidimensional perfectionism scale]. *Revue Francophone de Clinique Comportementale et Cognitive*, *5*, 11–22.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum.
- Cox, B. J., Enns, M. W., & Clara, I. P. (2002). The multidimensional structure of perfectionism in clinically distressed and college student samples. *Psychological Assessment*, *14*, 365–373.
- Enns, M. W., Cox, B. J., Sareen, J., & Freeman, P. (2001). Adaptive and maladaptive perfectionism in medical students: A longitudinal investigation. *Medical Education*, *35*, 1034–1042.
- Frost, R. O., Heimberg, R. G., Holt, C. S., Mattia, C. S., & Neubauer, A. L. (1993). A comparison of two measures of perfectionism. *Personality and Individual Differences*, *14*, 119–126.
- Frost, R. O., Marten, P., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive Therapy and Research*, *14*, 449–468.
- Gaudreau, P., Sanchez, X., & Blondin, J.-P. (2006). Positive and negative affective states in a performance-related setting testing the factorial structure of the PANAS across two samples of French–Canadian participants. *European Journal of Psychological Assessment*, *22*, 240–249.
- Gaudreau, P., & Thompson, A. (2010). Testing a 2×2 model of dispositional perfectionism. *Personality and Individual Differences*, *48*, 532–537.
- Hayes, A. F., & Matthes, J. (2009). Computational procedures for probing interactions in OLS and logistic regression: SPSS and SAS implementations. *Behaviour Research Methods*, *41*, 924–936.
- 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.
- Hewitt, P. L., Flett, G. L., Besser, A., Sherry, S. B., & McGee, B. (2003). Perfectionism is multidimensional: A reply to Shafran, Cooper and Fairburn (2002). *Behaviour Research and Therapy*, *41*, 1221–1236.
- Hill, R. W., Huelsman, T. J., Furr, R. M., Kibler, J., Vicente, B. B., & Kennedy, C. (2004). A new measure of perfectionism: The perfectionism inventory. *Journal of Personality Assessment*, *82*, 80–91.
- Intevaire de dépression de Beck (2ème édition) [Beck Depression Inventory (2nd edition)], in *Manuel du BDI-II* eds Editions du centre de psychologie appliquée, 25 rue de la Plaine, 75980, Paris Cedex 20, 1996.
- Labrecque, J., Stephenson, R., Boivin, I., & Marchand, A. (1998). Validation de l'échelle multidimensionnelle du perfectionnisme auprès de la population francophone du Québec. [Validation of the Multidimensional Perfectionism Scale in the French-speaking population of Quebec]. *Revue Francophone de Clinique Comportementale et Cognitive*, *3*, 1–14.
- Shafran, R., Cooper, Z., & Fairburn, C. G. (2002). Clinical perfectionism: A cognitive-behavioral analysis. *Behaviour Research and Therapy*, *40*, 773–791.
- Shafran, R., & Mansell, W. (2002). Perfectionism and psychopathology: A review of research and treatment. *Clinical Psychology Review*, *21*, 879–906.
- Stoeberl, J., & Otto, K. (2006). Positive conceptions of perfectionism: Approaches, evidence, challenges. *Personality and Social Psychology Review*, *10*, 295–319.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston, MA: Allyn and Bacon.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, *54*, 1063–1070.