

Frustration Intolerance and Unconditional Self-Acceptance as Mediators of the Relationship between Perfectionism and Depression

Sanda Stanković^{1,2}, Marija Matić¹, Tatjana Vukosavljević-Gvozden¹,
and Goran Opačić¹

¹*Department of Psychology, Faculty of Philosophy, University of Belgrade, Serbia*

²*Medical College „Milutin Milanković“, Belgrade, Serbia*

The aim of the present study was to further clarify the basic mechanism through which maladaptive perfectionism leads to depression, using the rational-emotive behavior therapy (REBT) framework. Previous studies have shown that depression is not associated with high personal standards, but rather with the tendency to evaluate one's self-worth based on the attainment of these standards, i.e. conditional self-acceptance. The goal of this study was to investigate for the first time the mediating role of frustration intolerance beliefs in this relationship, beyond and above the contribution of unconditional self-acceptance (USA) beliefs. The sample consisted of 321 undergraduate students. Consistent with REBT theory, the structural equation modeling showed that both frustration intolerance and USA mediated the relationship between maladaptive perfectionism and dysphoria, with frustration intolerance beliefs being the stronger mediator. There was no evidence that maladaptive perfectionism influenced dysphoria independently of its effect on frustration intolerance and USA.

Keywords: perfectionism; depression; frustration intolerance; unconditional self-acceptance

Theoretical and research interest in the construct of perfectionism has increased exponentially over the past three decades. The interest stems from findings that perfectionism is linked with maladjustment and numerous emotional and psychopathological disturbances, including depression (e.g. Ayearst, Flett, & Hewitt, 2012; Egan, Wade, & Shafran, 2011).

It has been shown that there are maladaptive and non-maladaptive/adaptive aspects of perfectionism (e.g. Frost, Heimberg, Holt, Mattia, & Neubauer, 1993; Terry-Short, Owens, Slade, & Dewey, 1995), yet it is not clear what makes the essence of its maladaptiveness. Therefore, one of the most important lines of research on perfectionism is “examining mediators and moderators of the association between perfectionism and psychological distress” (Flett & Hewitt, 2007, p.227). This type of research has not only theoretical relevance for

developing theoretical models on perfectionism, but also practical relevance for psychotherapy.

Perfectionism and depression

The relationship between perfectionism and depression has been postulated for a long time (Blatt, 1995). Psychoanalysts (e.g. Arieti, Bemporad, Blatt, Bowlby) and cognitive-behavioral therapists (Beck), differentiate between two types of depression (Blatt & Maroudas, 1992). One is a reaction to loss of love and acceptance in interpersonal relations (sociotropic/anaclitic depression) and the other is achievement-related (autonomic modus/self-critical/introjective depression). The latter is characterized by demands for self-control and achievement, with self-worth being based on personal endeavors and success. Failure in achieving a certain ideal or standard, or perceived lack of control over environment precipitates this type of depression.

Empirical research, including longitudinal studies, has confirmed that perfectionism is one of the main vulnerability factors for depression (e.g. Cox & Enns, 2003; Hewitt & Flett, 1991; Hewitt, Flett, & Ediger, 1996; Rice & Aldea, 2006). Perfectionism has been shown to be a relatively stable personality trait (e.g. Cox & Enns, 2003; Rice & Aldea, 2006) that is a vulnerability factor for depression both in clinical samples (patients with unipolar depression) and nonclinical samples (where we mostly find dysphoria). Longitudinal studies have confirmed that perfectionism predicts later depression (Rice & Aldea, 2006), but also that perfectionists are more depressed than non-perfectionists even on the days without any negative event (e.g. Crocker, Karpinski, Quinn, & Chase, 2003). Perfectionism is also found to be an important factor of maintenance of depression and source of resistance in treatment for depression (Blatt, 1995; Blatt, Zuroff, Bondi, Sanislow, & Pilkonis, 1998; Egan et al., 2011). Finally, it has also been shown to be related to serious and lethal suicide attempts (Blatt, 1995).

Frost's multidimensional conceptualization of perfectionism

Conceptualizations of perfectionism have evolved from one-dimensional and dysfunctional perspective, to multi-dimensional perspective and differentiation between adaptive or "healthy" perfectionism and maladaptive, "unhealthy" perfectionism (Adkins & Parker, 1996; Frost et al., 1993; Lynd-Stevenson & Hearne, 1999; Rice, Ashby, & Slaney, 1998; Stumpf & Parker, 2000; Terry-Short et al., 1995). One of the most frequently used conceptualizations of perfectionism is Frost's multidimensional model, which defines perfectionism as setting high standards (operationalized by personal standards dimension – PS) followed by the tendency towards overly critical evaluating one's own behavior (Frost, Marten, Lahart, & Rosenblate, 1990). This tendency is operationalized by two dimensions – doubts over one's actions (DA) and concern over mistakes (CM). The model also includes sensitivity over parents' expectations (PE) and parental criticism (PC), and a tendency to be occupied by a need for organization (O) (Frost et al., 1990).

Frost's dimensions of perfectionism may be categorized as healthy and unhealthy on the basis of presence or absence of links with a wide range of psychopathological problems. Previous research has shown that problematic outcomes were consistently associated with CM and DA subscales (Frost et al., 1997; Parker & Stumpf, 1995; Rhéaume, Freeston, Dugas, Letarte, & Ladouceur, 1995), whereas O and PS subscales were either found to be unrelated to maladjustment, or related to desirable outcomes, such as orientation toward success (Frost & Henderson, 1991), motivation (Adkins & Parker, 1996) or commitment to objectives (Flett, Sawatzky, & Hewitt, 1995). Also, when factor analyzed together with another multidimensional perfectionism measure (MPS-H; Hewitt & Flett, 1991), dimensions CM, DA, PE and PC loaded on one factor, called Maladaptive evaluation concerns factor, while PS and O formed another factor called Positive strivings (Frost et al, 1993). Two-factorial adaptive/maladaptive solutions were found when factor analyzing MPS-F together with other perfectionism measures as well (Bieling, Israeli, & Antony, 2004; Stumpf & Parker, 2000)

Regarding depression, several reports have documented moderate to strong correlations between CM and DA subscales and depressive symptoms measured with the BDI (Frost et al, 1993; Lynd-Stevenson & Hearne, 1999). Other subscales have shown smaller, or even inverse, relationships with the BDI.

Unconditional self-acceptance as mediator of the relationship between perfectionism and depression

Among the most significant mediators of the relationship between perfectionism and depression found so far are unconditional self-acceptance (USA) (Flett, Besser, Davis & Hewitt, 2003; Scott, 2007) and a similar concept of contingent self-worth (Crocker et al., 2003; Sturman, Flett, Hewitt, & Rudolph, 2009). USA is a construct from rational-emotive behavior therapy (REBT) that implies presence or absence of the tendency to globally evaluate one's self, i.e. to assess one's own self-worth. REBT considers that this tendency leads to disturbance (e.g. depression) because global self-worth is always contingent on meeting certain standards (e.g. perfectionistic standards), and as such, can never be guaranteed in reality. On the other hand, unconditional self-acceptance implies evaluating one's own deeds rather than evaluating one's own self-worth (Ellis, 1994). As such, high USA is considered to be a suppressor factor for any kind of disturbance.

It has long been argued that the essence of maladaptive perfectionism is not high personal standards per se, but tendency to base one's global self-worth on meeting these standards. This tendency is one of main components in theoretical models of autonomic/introjective depression (Blatt, 1995; Blatt & Maroudas, 1992), and the core maladaptive component in a more recent model of "clinical perfectionism" (Shafran, Cooper & Fairburn, 2002). Perfectionists that conditionally accept themselves tend to think of themselves as unworthy, inferior and worthless when they don't achieve their personal standards, or when

they are not working hard enough or striving towards their goals (DiBartolo, Frost, Chang, La Sota, & Grills, 2004; Sturman et al, 2009). Indeed, it was shown that students with contingent self-worth have unstable self-esteem that predicts their depressive mood (Crocker et al., 2003) and that self-esteem also mediates the relationship between perfectionism and depression (Rice et al, 1998).

The current study: frustration intolerance as additional mediator of the relationship between perfectionism and depression

Studies using measures of USA or self-esteem as mediators do not fully explain the relationship between perfectionism and depression (Rice et al, 1998; Scott, 2007; Sturman et al, 2009). This could mean that there is either an inherently maladaptive part of perfectionism or that other mediators are involved. Different authors suggest that this line of research should be extended by including other mediators (e.g. Flett et al, 2003).

Using REBT theoretical framework, we hypothesized that the other mediator in the relationship between maladaptive perfectionism and depression could be frustration intolerance. Frustration intolerance is one of central concepts in REBT theory (Ellis, 1994). REBT proposes two basic types of emotional disorders, differentiated on the basis of two distinct types of irrational beliefs: global self-worth rating and frustration intolerance beliefs. “Ego disturbances” arise from the belief that one’s global self-worth depends on meeting certain absolutistic demands, and “discomfort disturbances” are based on the belief that one “cannot stand” the frustration of one’s goals/demands set and a refusal to accept such reality. These two belief processes are assumed to partly interact, but also have an independent and differential relationship with dysfunctional emotions and behavior. REBT is the unique theoretical position that hypothesizes the existence of discomfort depression – depression based on frustration intolerance beliefs and not self-worth beliefs. Existing empirical evidence does confirm that frustration intolerance beliefs are related to depression independently of beliefs related to global self-worth (e.g. Chang & Zurilla, 1996; Harrington, 2006; McDermut, Haaga, & Bilek, 1997; Stanković & Vukosavljević-Gvozden, 2011).

Accordingly, we assumed that perfectionism would lead to depression not only when one bases his/her self-worth on meeting high perfectionistic standards, but also when one has an irrational philosophy of frustration intolerance. It would refer to a perfectionist that cannot stand performing below his/her standards or having his/her goals frustrated. It would also refer to a perfectionist that has discomfort intolerance beliefs such as: “I’ll never achieve my best. It is too difficult” or “I should always achieve my goals without any difficulty” (Harrington, 2007, p.22).

While the above mentioned evidence strongly points to the relationship between perfectionism and ego-depression, the role of frustration intolerance in maladaptive perfectionism and specifically in the relationship between perfectionism and depression has not been studied so far. Even the existing theoretical formulations of maladaptive perfectionism do not explicitly relate it

to frustration intolerance, except for Harrington (2007) who has argued for the separation of self-worth perfectionism and frustration intolerance perfectionism.

The aim of the current study was to investigate for the first time the mediating role of frustration intolerance in the relationship between perfectionism and dysphoria, by testing the REBT model of emotional disorders. In this model unconditional self-acceptance and frustration intolerance beliefs are proposed as two basic mechanisms through which perfectionism affects depression and dysphoria.

Method

Participants

The sample consisted of 321 undergraduate and graduate students (204 females, 117 males) from the University of Belgrade, aged from 19 to 26 years. The mean age of the participants was 22.8 years. Students participated in the study in exchange for course credit. The questionnaires were completed in group sessions, with average testing duration of 30 min.

Measures

Frost Multidimensional Perfectionism Scale (FMPS; Frost et al., 1990) is one of the most widely used multidimensional measures of perfectionism. It consists of 35 items and six subscales: concern over mistakes (CM), personal standards (PS), parental criticism (PC), parental expectations (PE), doubts over action (DA), and organization (O). Participants assess the statements on a 5-point scale. In previous studies, Cronbach's coefficient alpha for the FMPS subscales ranged from .70 to .93 (Frost et al., 1993; Frost et al., 1990; Rice et al., 1998). The Serbian version of the FMPS was developed following back-translation method (Brislin, 1970). Additionally, a pilot version was administered to a small group of participants. The reliabilities of subscales and the total score in the Serbian version of FMPS were high (CM 0.91, PS 0.81, PE 0.82, PC 0.77, DA 0.79; total score 0.87).

The Frustration Discomfort Scale (FDS; Harrington, 2005) consists of 28 items representing frustration intolerance beliefs ("I can't stand/tolerate/bear") and four subscales: discomfort intolerance, entitlement, emotional intolerance and achievement. Participants assess the statements on a 5-point. The instrument has shown good psychometric properties (Harrington, 2005, 2006). The Serbian version was also reported to have good internal consistency – Cronbach alpha of .82, .81, .83 and .83 for subscales, respectively, and 0.94 for total score (Stanković & Vukosavljević-Gvozden, 2011).

The Unconditional Self-Acceptance Questionnaire (USAQ; Chamberlain & Haaga, 2001a) is a self-report measure of the unconditional self-acceptance beliefs, through 20 items. Participants assess the statements on a 7-point scale. Chamberlain and Haaga report a Cronbach alpha of .72 which was considered acceptable for a multifaceted construct such as USA. The Serbian version of the USAQ has been found to possess corresponding validity and reliability of 0.75 (Stanković & Vukosavljević-Gvozden, 2011).

The Beck Depression Inventory (BDI-I; Beck, Rush, Shaw, & Emery, 1979) is a 21-item self-report measure of depressive symptoms. The scale demonstrated high internal consistency and convergent validity with interview ratings on depression severity (Beck, Steer, & Garbin, 1988). The Serbian version has demonstrated adequate psychometric properties in previous research (e.g. Stanković & Vukosavljević-Gvozden, 2011). In nonclinical samples BDI is used as a measure of dysphoria, rather than of clinical depression (Dykman & Johll, 1998).

Results

Descriptive Statistics

Table 1 presents means, standard deviations, reliabilities, skewness and kurtosis for all examined measures. Alpha coefficients show moderate to strong reliabilities. Perfectionism subscales and overall perfectionism of FMPS showed somewhat lower reliability than the original FMPS (Frost et al., 1990). The Frustration Discomfort Scale and USAQ displayed internal consistency in accordance with previous findings (Chamberlain & Haaga, 2001a,b; Harrington, 2005; Stanković & Vukosavljević-Gvozden, 2011). Means for perfectionism subscales are similar or somewhat lower (PS and PE) than available data for student population (e.g. Adkins & Parker, 1996). No significant univariate gender effects were found for any of the variables. Standardized skewness shows deviations from normality for perfectionism subscales PE, PC and O, as well as for depressive symptoms (BDI). Standardized kurtosis shows deviations from normality for frustration intolerance subscales and total score, and BDI. As expected, the BDI shows the most marked deviation from normality, because the sample is nonclinical.

Table 1
Reliability Analysis, Normality Tests, Means and Standard Deviations

	α	Sk	Sk SE	Ku	Ku SE	M	SD
Concern over mistakes (CM)	.84	.19	.14	-.28	.27	20.38	5.54
Personal standards (PS)	.77	-.12	.14	.18	.27	21.63	4.37
Parental expectations (PE)	.80	.78	.14	.45	.27	12.36	4.03
Parental criticism (PC)	.73	.40	.14	-.10	.27	7.71	2.77
Doubts over actions (DA)	.74	.01	.14	-.24	.27	10.67	3.12
Organization (O)	.86	-.61	.14	.34	.27	21.92	4.51
BDI	.86	1.70	.14	3.34	.27	6.65	6.46
FDS total	.93	-.10	.14	-.91	.27	74.70	19.89
Discomfort intolerance	.82	.25	.14	-.61	.27	17.34	5.34
Entitlement	.82	.02	.14	-.74	.27	19.85	5.74
Emotional intolerance	.83	.22	.14	-.72	.27	17.85	6.02
Achievement	.83	-.02	.14	-.72	.27	19.66	5.70
Unconditional self-acceptance (USA)	.75	-.22	.14	.03	.27	87.65	13.35

Note: α -Cronbach Alpha-reliability; Sk-Skewness, Sk SE – skewness standard error; Ku-Kurtosis, Ku SE – Kurtosis standard error; M-mean; SD-standard deviation.

Correlational Analysis

Correlations between study measures are shown in Table 2. Among perfectionism subscales, CM has the strongest correlation with the total score,

which is consistent with previous research. The intercorrelations between perfectionism subscales mostly confirm previous findings (Frost et al., 1990). However, there are some differences indicating clearer differentiation between subscales generally associated with maladaptive perfectionism and those associated with adaptive perfectionism. For example, DA subscale shows lower correlations with PS and O subscales, while PC shows higher correlations with DA and CM.

Among the perfectionism subscales, DA shows the strongest positive relationship with depression ($r = .40^{**}$), followed by CM ($r = .30^{**}$) and PC ($r = .28^{**}$). Subscale PE is not related to depression, while O and PS have significant inverse association with depressive mood.

Results show that CM and DA have the strongest relationship with FDS total score, $r = .53$ and $r = .40$, respectively. These two subscales, followed by PC, also have the strongest, inverse, relationship with USAQ. O is uncorrelated neither with FDS total nor with USA.

The measures of frustration intolerance and self-acceptance show expected correlations both mutually and with depression. USAQ correlates negatively with depression ($r = -.38$), while FDS shows somewhat stronger and positive relationship with depression ($r = .44$), like in previous research (Flett et al., 2003). The correlation between frustration intolerance and the measure of self-acceptance ($r = -.36$), also confirm previous findings (Stanković & Vukosavljević-Gvozden, 2011).

Table 2
Correlations between all Study Measures

	CM	PS	PE	PC	DA	O	BDI	FDS total	Discomfort	Entitlement	Emotional Achievement	USA	
Concern over mistakes (CM)	1												
Personal standards (PS)	.41**	1											
Parental expectations (PE)	.35**	.28**	1										
Parental Criticism (PC)	.47**	.10	.58**	1									
Doubts over actions (DA)	.45**	-.03	.17**	.34**	1								
Organization (O)	.10	.39**	-.02	-.09	-.06	1							
BDI	.30**	-.11*	.07	.28**	.40**	-.19**	1						
FDS total	.53**	.13*	.23**	.29**	.40**	.09	.44**	1					
Discomfort intolerance	.38**	-.07	.16**	.26**	.39**	-.04	.47**	.75**	1				
Entitlement	.44**	.14*	.26**	.29**	.33**	.10	.35**	.83**	.72**	1			
Emotional intolerance	.45**	-.01	.15**	.25**	.36**	.05	.52**	.78**	.73**	.72**	1		
Achievement	.57**	.39**	.23**	.21**	.29**	.21**	.20**	.70**	.55**	.72**	.62**	1	
Unconditional self-acceptance (USA)	-.56**	-.16**	-.21**	-.34**	-.38**	-.02	-.38**	-.36**	-.29**	-.31**	-.37**	-.30**	1
MSPF tot	.58**	.43**	.41**	.46**	.27**	.13*	-.18**	.46**	.28**	.43**	.34**	.55**	-.46

Note. n = 321.

** Correlation is significant at the .01 level (2-tailed).

* Correlation is significant at the .05 level (2-tailed).

Principal component analysis of Frost Multidimensional Perfectionism Scale

Previous studies have shown that the factorial structure of the FMPS instrument does not replicate well across different populations and the debate is still open as to what number of factors, i.e. subscales is most adequate. Factor analyses of FMPS have yielded three (e.g. Purdon, Antony, & Swinson, 1999), four (e.g. Stöber, 1998), five (e.g. Cox, Enns, & Clara, 2002) and six factorial structure of the instrument (e.g. Parker & Stumpf, 1995).

Having this in mind, as well as the fact that this was the first time that the Serbian version of FMPS was used, the correlation matrix of the FMPS subscale scores was subjected to principal component analysis. The results of the principal component analysis provided evidence for two separate components with eigenvalues over 1. The eigenvalues were 2,328 for factor 1, and 1,418 for component 2. Unrotated component loadings are shown in Table 3. Component 1 subsumed CM, PC, DA, PS and PE with positive loadings. O and PS loaded positively on component 2, and PC and DA displayed negative loadings. PS showed higher loadings on factor 2. The loadings of specific subscales are consistent with previous research (Cox et al, 2002; Frost et al., 1993). Accordingly, the two components can be labeled as maladaptive and adaptive perfectionism. PS showed loadings on both components, although, stronger on “adaptive perfectionism”. This adds evidence to the conclusion that PS is not exclusively adaptive.

Table 3

Principal Component Analysis of the Frost Multidimensional Perfectionism Scale

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.328	38.803	38.803	2.328	38.803	38.803
2	1.418	23.629	62.432	1.418	23.629	62.432
3	.916	15.269	77.701			
4	.611	10.190	87.891			
5	.424	7.059	94.950			
6	.303	5.050	100.000			

Note. Extraction method: Principal component analysis.

Table 4

Unrotated Component Matrix for FMPS Subscales

	Component	
	1	2
CM	.808	.078
PS	.479	.723
PC	.775	-.316
PE	.726	-.080
DA	.551	-.368
O	.119	.805

Note. Extraction Method: Principal Component Analysis. FMPS=Frost Multidimensional Perfectionism Scale; CM=Concern over mistakes; PS=Personal standards; PC=Parental criticism; PE=Parental expectations; DA=Doubts over actions; O=Organization.

Analysis of mediation

The structural equation modeling was used to test the mediating role of unconditional self-acceptance and frustration intolerance beliefs in the relationship between perfectionism and dysphoria. Two extracted principal components of FMPS were used instead of the original subscales, because of the factorial instability of FMPS and thus questionable validity of the original subscales. Given that the components correspond to adaptive and maladaptive forms of perfectionism, they would provide us with a clearer and theoretically more sound conclusions. Analyses were conducted using AMOS 19 with a bootstrapping technique to estimate indirect effects (Preacher & Hayes, 2008). The mediating and the dependent variable were normalized beforehand using Blom's formula in SPSS. Estimation method was maximum likelihood. We determined adequacy of model fit by using the Chi-square statistic (χ^2), the relative chi-square (χ^2/df), Goodness of Fit Index – GFI (Jöreskog & Sorböm, 1984), the Comparative Fit Index—CFI (Bentler, 1990), the Normed Fit Index—NFI (Bentler & Bonett, 1980) and the root mean square error of approximation (RMSEA) (Browne & Cudeck, 1992; Steiger & Lind, 1980). The model was conducted while controlling for the correlations between perfectionism variables as well as between potential mediators (USA and FDS). Following Bentler and Mooijjaart (1989), we conducted modifications by removing nonsignificant path coefficient from the model, in order to obtain the most parsimonious model. The path coefficients are expressed in standardized metric.

As shown in Figure 1, adaptive perfectionism had negative, inverse relation with dysphoria ($\beta = -.26$, $t = -5.724$, $p = .000$), and no significant association with FDS ($\beta = -.033$, $t = -.671$, $p = .502$) nor with USA ($\beta = .065$, $t = 1.346$, $p = .178$). In other words, having higher personal standards and organization leads to lower levels of depressive symptoms and this relation is not mediated by unconditional self-acceptance or frustration intolerance beliefs.

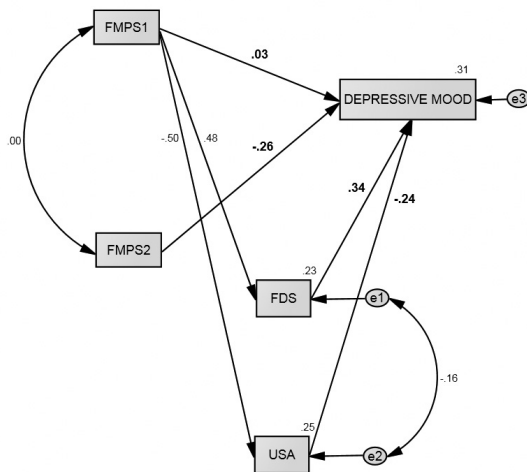


Figure 1. Bold estimates show standardized maximum likelihood parameters that are statistically significant. Small circles represent residual variances, bidirectional arrows reflect correlations, and unidirectional arrows depict „causal“ links. FMPS1=Component 1 of the Frost Multidimensional Perfectionism Scale; FMPS2=Component 2 of the Frost Multidimensional Perfectionism Scale; USA=Unconditional self-acceptance; FDS=Frustration intolerance.

Maladaptive perfectionism on the other hand, was shown to indirectly influence dysphoria through its effect on frustration intolerance and unconditional self-acceptance. Students who have higher concern over mistakes, doubts over action and parental criticism and expectations, tend to have higher frustration intolerance ($\beta = .48, t = 9.735, p = .000$) as well as lower unconditional self-acceptance USA ($\beta = -.50, t = -10.263, p = .000$). Students who had higher frustration intolerance and lower unconditional self-acceptance had higher scores on BDI ($\beta = .34, t = 6.275, p = .000$; $\beta = -.24, t = -4.386, p = .000$). Bootstrapping analyses with 1,000 bootstrapping resamples to produce 95% bias corrected confidence intervals, showed that confidence intervals for both indirect effects were entirely above zero (see Table 5).

Table 5
Bootstrap Results for Indirect Effects of Maladaptive Perfectionism on Dysphoria

Indirect effect	Standard error SE	Bias-corrected 95% confidence intervals	
		Lower	Upper
Total	.28*	.21	.37
Specific through FDS	.15*	.10	.22
Specific through USA	.12*	.07	.19

Note. Confidence intervals are based on 1,000 bootstrap samples.

*Indicates statistical significance based on 95% bias-corrected confidence intervals.

Therefore, our results provide evidence that both frustration intolerance and unconditional self-acceptance mediate the association between perfectionism and dysphoria. Finally, the direct path from maladaptive perfectionism factor to dysphoria was insignificant ($\beta = .030$, $t = .535$, $p = .592$). This means that our study shows no evidence of maladaptive perfectionism influencing depressive symptoms independently of its effect on FDS and USA.

We were also interested in the comparison of path coefficients between FDS on depressive mood (.34) and USA on depressive mood (-.24) in order to determine which one is the stronger mediator. If z value is greater than $|1.96|$ (absolute value of 1.96) for the difference between paths, we can conclude that this difference is statistically significant at $p < .05$. The z value in this case is 8.233 and therefore exceeds the critical value of $|1.96|$. Hence, two paths are significantly different and frustration intolerance is the stronger mediator, compared to unconditional self-acceptance, in the relationship between perfectionism and dysphoria.

The measures of fit indicate excellent fit (Table 6). The model accounted for 31% of the variance in BDI scores.

Table 6
Measures of Fit for the Mediating Model

N	X ²	df	p	X ² /df	GFI	CFI	NFI	RMSEA
321	2.018	2	.365	1.009	.997	1.000	.993	.005

Discussion

The purpose of the study was to empirically assess the model in which frustration intolerance beliefs and unconditional self-acceptance mediate the relationship between perfectionism and depression, derived from REBT framework. While it has already been established that perfectionism exerts the impact on depression partly through its effect on unconditional self-acceptance, the mediating role of frustration intolerance beliefs in this relationship has never been examined before.

Two-factorial principal component solution for perfectionism was found, with component and scale loadings corresponding to two-factorial solutions usually obtained by factor analysis of FMPS together with other perfectionism measures (Bieling et al., 2004; Cox et al., 2002; Stumpf & Parker, 2000). Perfectionism dimensions CM, DA, PE and PC loaded on one component labeled as “maladaptive perfectionism”, while O and PS loaded on the other one, called “adaptive perfectionism”. The components were named based on their relation with maladaptiveness obtained in this and previous studies. PS was the only subscale positively related to both components, although to much higher extent with adaptive perfectionism. It has already been suggested that high Personal Standards are maladaptive only when people also have high Concern over Mistakes (Lundh, 2004). It seems that having high personal standards can be either motivating or positive in terms of high ambitions, or maladaptive when high ambitions are followed by doubts and concerns over one’s performance and evaluation.

The first finding regarding the relation between perfectionism and depression is that the adaptive dimension was found to be a suppressive factor for depression. Our results seemingly give support to claims that there is an adaptive side of perfectionism. However, based on our findings we cannot conclude that perfectionism is indeed adaptive or that it leads to positive psychological outcomes or functioning. Namely, if one's goals are not frustrated, perfectionistic demands don't have to lead to disturbance. In basic REBT terms, one could have strong absolutistic demands for achievement, recognition and approval of others, and as long as one succeeds in it, he/she will not be emotionally disturbed or fall into depression (Ellis, 1994). We could hypothesize that students who have high standards and high organization have higher probability of achieving their perfectionistic goals and thus are less likely to be dysphoric. However, there could be other maladaptive consequences which we did not measure, such as anxiety. Also, it could only be a short-term gain, and the finding does not tell us anything about long-term effects of this type of perfectionism throughout the lifespan, both depression-related and stress-related (Stanković & Vukosavljević-Gvozden, 2011). As Flett and Hewitt (2007) claim, although it is certainly proved that some dimensions of perfectionism are more dysfunctional than the others, we cannot say with the same certainty that these less problematic aspects of perfectionism are adaptive.

Secondly, maladaptive perfectionism was shown to be a significant predictor of frustration intolerance and unconditional self-acceptance. Higher maladaptive perfectionism scores are likely to be accompanied by lower unconditional self-acceptance and higher frustration intolerance. This means that someone having perfectionistic beliefs regarding mistakes or his own performance is likely to also have higher intolerance of frustration and to have conditional self-worth. The direction of this association was as expected and gave further support to the conclusions about maladaptiveness of some forms of perfectionism. Previous research has already shown the inverse relationship between perfectionism and USA (DiBartolo et al., 2004; Flett et al., 2003; Scott, 2007), and present findings extend existing results by incorporating frustration intolerance beliefs.

The main findings of the current study indicate that frustration intolerance beliefs are a significant mediator in the relationship between maladaptive perfectionism and dysphoria alongside USA. Further, we found no evidence of a direct effect of maladaptive perfectionism on dysphoria, independent of its effect on frustration intolerance beliefs and USA. These findings shed new light and extend the existing knowledge on maladaptiveness of perfectionism. Numerous researchers have already found the important role of unconditional self-acceptance in the relationship between perfectionism and depression. However, USA could not fully account for this relationship. The results of our study provide evidence for frustration intolerance being the other mediator and show REBT theory to be applicable to perfectionism related depression, i.e. that maladaptive perfectionism can lead to both ego and/or discomfort depression. According to REBT theory of emotional disorders, the two types of irrational beliefs are

in fact the most general vulnerability factor for depression. Indeed, our results showed that people who are concerned over mistakes, have doubts over their actions and are raised with high parental expectations and criticism usually tend to have conditional sense of self-worth and/or high frustration intolerance, and, thus, to be vulnerable to depression. A person who bases his/her self-worth on achievement of perfectionistic standards, will likely evaluate his/her self-worth negatively (view oneself as incompetent, inadequate, worthless, inferior) and consequently be depressed, when facing negative feedback, underachievement or failure. Also, if one has high frustration intolerance i.e. a tendency towards „I can't stand it“ irrational belief process he/she will likely be depressed when facing difficulties in achieving perfectionistic goals. High frustration intolerance beliefs may be present in various forms, for example intolerance of negative emotions present during the process of attaining goals, or discomfort required in order to achieve, or other people hindering one's goals, or simply not tolerating anything below perfection.

Also, our results indicate that frustration intolerance is the stronger mediator in the relationship between perfectionism and dysphoria, than unconditional self-acceptance. That could mean that frustration intolerance beliefs are the main vulnerability factor in perfectionists that leads to depression, having stronger impact on depressive mood than beliefs regarding one's own value. Given the lower reliability of the measure of USA (USAQ), this should be submitted to further validation, using other instruments of perfectionism and USA as well.

Current findings have significant theoretical and practical implications. At the theoretical level our study gives starting evidence for including frustration intolerance beliefs in theoretical models of maladaptive perfectionism. Regarding treatment and prevention interventions, our results suggest it would be better to place the emphasis on developing and enhancing unconditional self-acceptance and frustration tolerance among perfectionists, rather than lowering their perfectionistic standards. These rational and self-helping beliefs would than act as protective factors when perfectionists standards are hard to attain, or unattainable. The goal of interventions would be to adopt positive perfectionism, that is, striving for perfection but accepting unperfection (Ellis, 1994, 2002; Lundh, 2004). Whereas enhancing unconditional self-acceptance has already been suggested as primary goal of treatment by proponents of model of „clinical perfectionism“ (e.g. Egan et al., 2011), our findings imply that frustration intolerance beliefs should be addressed as well. Addressing these beliefs in prevention interventions aimed at student population is especially important because students are high risk population for maladaptive perfectionism (Rice & Aldea, 2006).

One limitation of the current study is related to the fact that only Frost's multidimensional measure of perfectionism was used. In order to reach a clearer conclusion we suggest validating current findings by using other measures of perfectionism. We would also suggest testing the same mediation model in clinical population. Future studies should also investigate more specific mediational models using different frustration intolerance subscales. Finally, the inferences

about causal relationships should be considered with caution, as we did not have a longitudinal, rather a transactional research design. While our results show that the hypothesized theoretical model is possible, only longitudinal or intervention studies could provide us with greater confidence about the causal relationships.

References

- Adkins, K.K., & Parker, W. (1996). Perfectionism and suicidal preoccupation. *Journal of Personality, 64*(2), 529–543.
- Ayeart, L.E., Flett, G.L., & Hewitt, P.L. (2012). Where Is Multidimensional Perfectionism in *DSM-5*? A Question Posed to the *DSM-5* Personality and Personality Disorders Work Group. *Personality Disorders: Theory, Research, and Treatment, 3*(4), 458–469.
- Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1979). *Cognitive therapy of depression*. New York: Guilford.
- Beck, A. T., Steer, R. A., & Garbin, M. G. (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clinical Psychology Review, 8*(1), 77–100.
- Bentler, P. M. (1990). Comparative Fit Indexes in Structural Modeling. *Psychological Bulletin, 107*(2), 238–246.
- Bentler, P. M., & Bonnet, D. G. (1980). Significance Tests and Goodness of Fit in the Analysis of Covariance Structures. *Psychological Bulletin, 88*, 588–606.
- Bentler, P.M., & Mooijaart, A. (1989). Choice of structural model via parsimony: A rationale based on precision. *Psychological Bulletin, 106*(2), 315–317.
- Bieling, S.J., Israeli, A., & Antony, M. M. (2004). Is perfectionism good, bad or both? Examining models of perfectionism construct. *Personality and Individual Differences, 36*(6), 1373–1385.
- Blatt, S.J. (1995). The destructiveness of perfectionism: Implications for the treatment of depression. *American Psychologist, 50*(12), 1003–1020.
- Blatt, S. J., & Maroudas, C. (1992). Convergence of psychoanalytic and cognitive behavioral theories of depression. *Psychoanalytic Psychology, 9*(2), 157–190.
- Blatt, S. J., Zuroff, D. C., Bondi, C. M., Sanislow, C. A., & Pilkonis, P. A. (1998). When and how perfectionism impedes the brief treatment of depression: further analyses of the National Institute of Mental Health treatment of depression collaborative research program. *Journal of Counseling and Clinical Psychology, 66*(2), 423–428.
- Brislin, R. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology, 1*(3), 185–216
- Browne, M.W., & Cudeck, R. (1992). Alternative ways of assessing model fit. *Sociological Methods & Research, 21*, 230–258.
- Chamberlain, J. M., & Haaga, D. A. F. (2001a). Unconditional self-acceptance and psychological health. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 19*(3), 163–176.
- Chamberlain, J. M., & Haaga, D. A. F. (2001b). Unconditional self-acceptance and responses to negative feedback. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 19*(3), 177–189.
- Chang, C. E., & Zurilla, J. T. (1996). Irrational beliefs as predictors of anxiety and depression in a college population. *Personality and Individual Differences, 20*(2), 215–219.
- Cox, B. J., & Enns, M. W. (2003). Relative stability of dimensions of perfectionism in depression. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement, 35*(2), 124–132.
- 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.

- Crocker, J., Karpinski, A., Quinn, D. M., & Chase, S. K. (2003). When grades determine self-worth: Consequences of contingent self-worth for male and female engineering and psychology majors. *Journal of Personality and Social Psychology, 85*(3), 507–516.
- DiBartolo, P.M., Frost, R.O., Chang, P., La Sota, M., & Grills, A.E. (2004). Shedding light on the relationship between personal standards and psychopathology: The case of contingent self-worth. *Journal of Rational-Emotive and Cognitive-Behavior Therapy, 22*, 37–250.
- Dykman, B. M., & Johll, M. (1998). Dysfunctional attitudes and vulnerability to depressive symptoms: A 14-week longitudinal study. *Cognitive Therapy and Research, 22*(4), 337–352.
- Egan, S. J., Wade, T. D., & Shafran, R. (2011). Perfectionism as a transdiagnostic process: A clinical review. *Clinical Psychology Review, 31*(2), 203–212.
- Ellis, A. (1994). *Reason and Emotion in Psychotherapy*. New York: A Birch Lane Press book.
- Ellis, A. (2002). The role of irrational beliefs in perfectionism. In G.L. Flett & P.L. Hewitt (Eds.), *Perfectionism: Theory, Research and Treatment* (pp. 217–229). Washington, DC: American Psychological Association.
- Flett, G. L., Besser, A., Davis, R. A., & Hewitt, P. L. (2003). Dimensions of perfectionism, unconditional self-acceptance, and depression. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 21*(2), 119–138.
- Flett, G. L., & Hewitt, P. L. (2007). Cognitive and self-regulation aspects of perfectionism and their implications for treatment: introduction to the special issue. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 25*(4), 227–236.
- Flett, G. L., Sawatzky, D. L., & Hewitt, P. L. (1995). Dimensions of perfectionism and goal commitment: A further comparison of two perfectionism measures. *Journal of Psychopathology and Behavioral Assessment, 17*, 111–124.
- 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.
- Frost, R. O., & Henderson, K. J. (1991). Perfectionism and reactions to athletic competition. *Journal of Sport and Exercise Psychology, 13*(4), 232–335.
- Frost, R. O., Marten, P., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive Therapy and Research, 14*(5), 449–468.
- Frost, R. O., Trepanier, K. L., Brown, E. J., Heimburg, R. G., Juster, H. R., Leung, A. W., & Makris, G. S. (1997). Self-Monitoring of Mistakes Among Subjects High and Low in Concern Over Mistakes. *Cognitive Therapy and Research, 21*(2), 209–222.
- Harrington, N. (2005). The frustration discomfort scale: Development and psychometric properties. *Clinical Psychology and Psychotherapy, 12*(5), 374–387.
- Harrington, N. (2006). Frustration intolerance beliefs: Their relationship with depression, anxiety, and anger, in a clinical Population. *Cognitive Therapy and Research, 30*(6), 699–709.
- Harrington, N. (2007). Frustration intolerance as a multidimensional concept. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 25*(3), 191–211.
- Hewitt, P. L., & Flett, G. L. (1991). Dimensions of perfectionism in unipolar depression. *Journal of Abnormal Psychology, 100*(1), 98–101.
- Hewitt, P. L., Flett, G. L., & Ediger, E. (1996). Perfectionism and depression: longitudinal assessment of a specific vulnerability hypothesis. *Journal of Abnormal Psychology, 105*(2), 276–280.
- Jöreskog, K. G., & Sörbom, D. (1984). *LISREL VI: Analysis of linear structural relationships by the method of maximum likelihood*. Mooresville, IN: Scientific Software.
- Lundh, L. G. (2004). Perfectionism and acceptance. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 22*(4), 255–269.
- Lynd-Stevenson, R. M., & Hearne, C. M. (1999). Perfectionism and depressive affect: the prons and cons of being perfect. *Personality and Individual Differences, 26*(3), 549–562.
- McDermut, J. F., Haaga, D. A. F., & Bilek, L. A. (1997). Cognitive bias and irrational beliefs in major depression and dysphoria. *Cognitive Therapy and Research, 21*(4), 459–476.

- Parker, W. D., & Stumpf, H. (1995). An examination of the multidimensional perfectionism scale with a sample of academically talented children. *Journal of Psychoeducational Assessment, 13*(4), 372–383.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*(3), 879–891.
- Purdon, C., Antony, M. M., & Swinson, R. P. (1999). Psychometric properties of the Frost Multidimensional Perfectionism Scale in a clinical anxiety disorders sample. *Journal of Clinical Psychology, 55*(10), 1271–1286.
- Rhéaume, J., Freeston, M. H., Dugas, M. J., Letarte, H., & Ladouceur, R. (1995). Perfectionism, responsibility, and obsessive-compulsive symptoms. *Behaviour Research and Therapy, 33*, 785–794.
- Rice, K. G., & Aldea, M. (2006). State dependence and trait stability of perfectionism: A short-term longitudinal study. *Journal of Counseling Psychology, 53*(2), 205–212.
- Rice, K. G., Ashby, J. A., & Slaney, R. B. (1998). Self-esteem as moderator between perfectionism and depression: A structural equations analysis. *Journal of Counseling Psychology, 45*(3), 304–314.
- Scott, J. (2007). The effect of perfectionism and unconditional self-acceptance on depression. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 25*(1), 35–64.
- Shafran, R., Cooper, Z., & Fairburn, C. G. (2002). Clinical perfectionism: A cognitive behavioural analysis. *Behaviour Research and Therapy, 40*(7), 773–791.
- Stanković, S., & Vukosavljević-Gvozden, T. (2011). The relationship of a measure of frustration intolerance with emotional dysfunction in a student sample. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 29*(1), 17–34.
- Steiger, J. H., & Lind, J. C. (1980, May). Statistically based tests for the number of common factors. Paper presented at the annual meeting of the Psychometric Society, Iowa City, IA.
- Stöber, J. (1998). The Frost Multidimensional Perfectionism Scale: More perfect with four (instead of six) dimensions. *Personality and Individual Differences, 24*(4), 481–491.
- Stumpf, H., & Parker, W.D. (2000). A hierarchical structural analysis of perfectionism and its relation to other personality characteristic. *Personality and Individual Differences, 28*(5), 837–852.
- Sturman, E.D., Flett, G. L., Hewitt, P.L. & Rudolph, S. G. (2009). Dimensions of Perfectionism and Self-worth Contingencies in Depression. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 27*(4), 213–231.
- Terry-Short, L.A., Owens, R.G., Slade, P.D. & Dewey, M.E. (1995). Positive and negative perfectionism. *Personality and Individual Differences, 18*(5), 663–668.