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Worry, Procrastination, and Perfectionism: Differentiating Amount of Worry, Pathological Worry, Anxiety, and Depression

Joachim Stöber and Jutta Joormann*

Abstract

This study investigates features that differentiate worry from somatic anxiety and depression. Theoretical models of the worry process suggest that worry is closely related to procrastination. In addition, research on worry and elevated evidence requirements proposes a relationship between worry and perfectionism. Perfectionism, however, is multidimensional in nature. Moreover, previous research has linked procrastination and perfectionism mainly to anxiety and depression. Therefore, the relationship between worry, procrastination, and dimensions of perfectionism was investigated in a sample of 180 students, while controlling for anxiety and depression. Results show that worry had substantial correlations with procrastination and perfectionism, particularly with perfectionist concern over mistakes and doubts. Moreover, worry was related to parental criticism and expectations, but unrelated to excessively high personal standards. Instead, high-worriers reported to lower standards under stress. Partial correlations indicated that these correlations were specific for amount of worry, thus differentiating amount of worry, pathological worry, anxiety, and depression.

Keywords

Anxiety, Depression, Procrastination, Perfectionism, Level of Aspiration

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Introduction

For over 15 years now, worry research has been looking for specific characteristics of worry (for a review, see Borkovec, Ray, & Stöber, in press). At the beginning of worry research, some researchers questioned that there is anything specific about worry (e.g., O'Neill, 1985) arguing that there is functionally no difference between worry and anxiety and that worry is merely a cognitive manifestation or a causal by-product of anxiety. In the meanwhile, however, it has been recognized that worry is not just an epiphenomenon of anxiety, but an important phenomenon that is worthy of separate study (cf. Davey, Hampton, Farrell, & Davidson, 1992; Davey & Tallis, 1994; Zebb & Beck, 1998). Nevertheless, one has to acknowledge that there is substantial overlap of worry with anxiety (e.g., Stöber, 1995) and depression (e.g., Andrews & Borkovec, 1988). This makes it worthwhile to look for specific features of worry to further our understanding of its nature, functions, and origins.

In an early attempt to describe specific features of worry, Breznitz (1971) described worry as some kind of "internal reality testing" that starts when the individual experiences a threat concerning possible future events. Consequently, he posited that chronic worry was like an internal TOTE loop (Test-Operate-Test-Exit; Miller, Galanter, & Pribram, 1960) with the Exit missing. Lost in thought, worriers postpone external reality testing and delay actions or even put them off. The "tendency to put off or completely avoid an activity under one's control" (Tuckman, 1991, p. 474) is called procrastination. Therefore, following Breznitz' (1971) analysis, worriers should show elevated levels of procrastination.

One potential reason for this procrastination may be that worriers have elevated evidence requirements (Tallis, Eysenck, & Mathews, 1991). A relationship between worry and elevated evidence requirements was first suggested by a study on worry and decision making (Metzger, Miller, Cohen, Sofka, & Borkovec, 1990). In a categorization task, high-worriers were slower to make decisions, particularly in conditions of high stimulus ambiguity. Metzger and colleagues explained their findings in terms of worriers' elevated fear of failure and greater concern for personal evaluation. Confronted with increasingly ambiguous stimuli, the worriers faced a situation in which there was no obviously correct response. All responses looked like wrong decisions. Hesitant of making mistakes, worriers chose to delay their decisions as long as possible. The findings by Metzger et al. were replicated by Tallis et al. (1991) who noted that worriers "need to be absolutely sure that they are doing 'the right thing' before a response can be made" (p. 22). Either they know the perfect answer to the problem, or they do not respond at all. Consequently, a recent study on worry and elevated evidence requirements suggests that worry is related to perfectionism (Pratt, Tallis, & Eysenck, 1997).

Early conceptualizations of perfectionism suggested perfectionism to be a unidimensional construct (Burns, 1980). In contrast, recent views have stressed that perfectionism is multidimensional in nature (Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991; Terry-Short, Owens, Slade, & Dewey, 1995). With respect to worry and perfectionism, the approach taken by Frost et al. (1990) is of particular interest. All conceptualization of perfectionism emphasize that perfectionists have excessively high personal standards. In addition, Frost and colleagues put forward that these standards are accompanied by tendencies for overly critical evaluations of one's own behavior, expressed in concern over mistakes and doubts about one's actions. Moreover, they posited that perfectionists place considerable value on parental expectations and criticism. Finally, they suggested that perfectionists tend to be overly organized. Excessive organization, however, turned out to be

only loosely related to the other dimensions of Frost et al.'s conceptualization of perfectionism (cf. Frost et al., 1990; Stöber, 1998b).

With this, Frost et al.'s (1990) conceptualization of perfectionism has three core dimensions: (a) concern over mistakes and doubts about actions, (b) parental expectations and criticism, and (c) excessively high personal standards (cf. Stöber, 1998b). Relating these core dimensions to the findings of worry and elevated evidence requirements (Metzger et al., 1990; Pratt et al., 1997; Tallis et al., 1991), the following expectations can be formulated: First, worriers report more concern over mistakes and doubts about actions than non-worriers (cf. Metzger et al., 1990). Second, worriers report greater parental expectations and criticism. Tallis (1990) speculated that elevated evidence requirements may be a result of parental rearing styles. Specifically, worriers may have had parents with high expectations who expressed strong disapproval when mistakes were made. For worriers, being right all the time was the only way to avoid parental disapproval. Third, worriers report higher personal standards than non-worriers, following the assumption that elevated evidence requirements may indicate excessively high personal standards (Pratt et al., 1997).

However, there are two points that need to be addressed. First, worry has shown intimate relationships with both anxiety and depression. An experimental study (Andrews & Borkovec, 1988), for example, demonstrated that the experience of worry is always associated with anxiety and depression. Consequently, self-report measures of worry show correlations in the range of .40 to .74 with self-report measures of anxiety and depression (e.g., Molina & Borkovec, 1994; Stöber, 1995). Also procrastination and perfectionism have shown significant relationships with both anxiety and depression (e.g., Antony, Purdon, Huta, & Swinson, 1998; McCown, Johnson, & Petzel, 1989; Minarik & Ahrens, 1996; Senécal, Koestner, & Vallerand, 1995). Therefore, if one wants to demonstrate that procrastination and perfectionism are specific features of worry, one has to control for anxiety and depression.

Second, one has to take into account that measures of worry differ with respect to primary focus. Consequently, they capture somewhat different aspects of worry. The two most widely-used worry measures are the Worry Domains Questionnaire (WDQ) (Tallis, Eysenck, & Mathews, 1992) and the Penn State Worry Questionnaire (PSWQ) (Meyer, Miller, Metzger & Borkovec, 1990). The WDQ was constructed as a measure of nonpathological worry, that is a measure of worry as experienced by "normal" individuals in everyday life. Consequently, the WDQ items present common worry topics such as leaving work unfinished, feeling unattractive, or running out of money. For each item, respondents indicate "how much" they worry about the respective topic. With this, the WDQ is a measure of amount of worry.[1] In contrast, the PSWQ was constructed as a measure of worry as experienced by clients diagnosed with generalized anxiety disorder (cf. American Psychiatric Association, 1994). Consequently, in addition to amount of worry, PSWQ items reflect subjects' perceptions of their worry as excessive, persistent, uncontrollable, and distressing. Thus, the PSWQ is a measure of pathological worry.

Substantial correlations between WDQ and PSWQ (on average .63; cf. Stöber, 1998a) show that amount of worry and pathological worry are intimately related. Still, there are marked differences between the two aspects. As Davey (Davey, 1993) demonstrated, amount of worry showed positive correlations with self-reported coping once trait-anxiety was partialed out; pathological worry did not. In a study by Stöber (1995), pathological worry was related to sleeping problems after partialling out trait-anxiety; amount of worry was not. Finally, in a treatment study (Stöber & Bittencourt, 1998), reductions in pathological worry predicted clients' self-reported positive changes in experiencing and behavior; reductions in amount of worry did

not. Therefore, to cover all aspects of worry, one has to measure both amount of worry and pathological worry.

With this, the aim of the present study was as follows: First, we wanted to examine if procrastination and perfectionism were related to worry and, if so, what dimensions of perfectionism showed the strongest associations. Second, we wanted to determine if procrastination and perfectionism were specific characteristics of worry, by controlling for anxiety and depression. Third, we wanted to investigate if there were differences with respect to amount of worry and pathological worry.

Method

Participants

A sample of 185 students was recruited at the Free University of Berlin. Five participants were excluded because of substantial missing data, resulting in a final sample of N = 180 students (136 women). The average age of the participants was 25.8 years (SD = 5.7). All participants volunteered for participation, in exchange of extra course credit.

Measures

Worry Domains Questionnaire (WDQ). As a measure of amount of worry, we included the Worry Domains Questionnaire (WDQ) (Tallis et al., 1992; Tallis, Davey, & Bond, 1994; German translation by Stöber, 1995). The WDQ is a 25-item measure that covers five domains of everyday worries, namely relationships, lack of confidence, aimless future, work incompetence, and financial issues (Joormann & Stöber, 1997). Each item presents a potential worry (e.g., "that I will lose close friends" or "that my money will run out"). For each item, respondents indicate how much they worry on a five-point answer scale ranging from Not at all (0) to Extremely (4).

Penn State Worry Questionnaire (PSWQ). As a measure of pathological worry, we included the Penn State Worry Questionnaire (PSWQ) (Meyer, Miller, Metzger, & Borkovec, 1990; Molina & Borkovec, 1996; German translation by Stöber, 1995). The PSWQ is a 16-item measure that covers statements about worry as experienced by clients diagnosed with generalized anxiety disorder (e.g., "Once I start worrying, I can't stop" or "My worries overwhelm me"). The PSWQ has a five-point answer scale from Not at all typical of me (1) to Very typical of me (5).

Beck Anxiety Inventory (BAI). As a measure of anxiety, we included the Beck Anxiety Inventory (BAI) (Beck, Epstein, Brown, & Steer, 1988; German translation by Margraf & Ehlers, 1998). The BAI comprises 21 items that cover a broad range of somatic and cognitive anxiety symptoms (e.g., numbness, feeling hot, or fear of loosing control). In the original instruction, participants are asked to indicate how much they have been bothered by each symptom "during the past week". Because we wanted to synchronize the BAI with the two worry measures, we modified BAI instruction and answer format by asking participants to indicate on a seven-point answer scale from Never (0) to Almost always (6) how often they have been bothered by each symptom in general.

Beck Depression Inventory (BDI). As a measure of depression, we included the 13-item short form of the Beck Depression Inventory (BDI) (Beck & Beck, 1972; German translation by Kammer, 1983).[2] The BDI short form has been developed as a fast screening test for depression symptoms. Short form and long form of the BDI have shown correlations of .96 and .95 (Beck & Beck, 1972; Kammer, 1983; respectively). In the publication by Beck and Beck (1972), the

instruction of the BDI short form asks respondents to indicate how they feel "today, that is, right now". To synchronize with the previous measures, we administered the BDI short form with the same time frame as the BAI (cf. above).[3]

Tuckman Procrastination Scale (TPS). As a measure of procrastination, we included the Tuckman Procrastination Scale (TPS) (Tuckman, 1991; own translation). The TPS is a 16-item measure of the tendency to overly delay starting and finishing tasks and duties (e.g., "When I have a deadline, I wait till the last minute" or "Putting something off until tomorrow is not the way I do it", reverse-scored). The original TPS has a four-point answer scale. In order to avoid confusion with too many different answer formats, we administered the TPS with the five-point answer scale of the perfectionism measure (see below).

Frost Multidimensional Perfectionism Scale (FMPS). To measure perfectionism, we included the Frost Multidimensional Perfectionism Scale (FMPS) (Frost et al., 1990; own translation). The FMPS is a 35-item measure with a five-point answer scale from Strongly disagree (1) to Strongly agree (5). Psychometric analysis found that the 35 items are best subsumed to four subscales (Stöber, 1998b): Concern over Mistakes and Doubts (CMD; 13 items), Parental Expectations and Criticism (PEC; 9 items), Personal Standards (PS; 7 items), and Organization (O; 6 items). The Organization subscale, however, was not included in our analyses because it is only loosely related to the other subscales and is excluded when calculating FMPS total scores (cf. Frost et al., 1990, p. 454-456). Moreover, it was unrelated to our hypotheses.

Aspiration Level Scale (ALS). As an additional measure of personal standards, we included the Aspiration Level Scale (ALS) (Wieland-Eckelmann & Bösel, 1987). The ALS is a 10-item measure of the tendency to lower one's standards under stress (e.g., "when I'm working under time pressure" or "when I have personal problems"). For the present study, the ALS was also administered with the five-point answer scale of the FMPS.

Table 1 presents means, standard deviations, and reliabilities (Cronbach's alphas) of all measures. All measures displayed alphas above .80, except the Personal Standards subscale and the Aspiration Level Scale. Still, with alphas well above .70, both measures showed reliabilities sufficient for research purposes (Carmines & Zeller, 1979). Inspecting the distribution of BDI scores, we found substantial positive skewness. Consequently, BDI scores (X+1) were subjected to a logarithmic transformation (Tabachnik & Fidell, 1989) to meet the normality requirement of our statistical analyses. To investigate gender differences, the correlation matrices of the female participants were compared with those of the male participants by means of multiple sample analysis using LISREL analysis (Jöreskog & Sörbom, 1989). This yielded a significant χ^2 test indicating that the two correlation matrices were not significantly different. Therefore, all analyses combined men and women. Screening the tolerance of all variables (Tabachnik & Fidell, 1989), no multicollinearity among variables was detected.

Results

Zero-Order Correlations

In line with previous findings, the two worry measures showed a correlation of .62 (cf. Table 1). Moreover, both worry measures showed high correlations with anxiety and depression. Correlations ranged from .51 to .59, corroborating previous findings of substantial co-occurrence. Turning to the variables we expected to be characteristic features of worry (in the following called "feature variables"), we found that both worry measures showed substantial correlations with procrastination and perfectionism. At the subscale level of the perfectionism

measure, the two worry measures showed the highest association with concern over mistakes and doubts about actions (CMD). In comparison, the correlations with the other two perfectionism subscales were much smaller. From these, only the .26 correlation between amount of worry and parental expectations and criticism (PEC) may be noteworthy, particularly with respect to Tallis' (1990) supposition regarding different childhood experiences of worriers and non-worriers. The correlations between worry and personal standards (PS), however, were all of negligible size. Instead, both worry measures showed a substantial correlation with the Aspiration Level Scale indicating that high-worriers have a greater tendency to lower their personal standards when under stress.

Yet, anxiety and depression showed the same correlational pattern as the two worry measures even though their correlations were somewhat lower in magnitude. Besides, all correlations described above were more pronounced for amount of worry (WDQ) than for pathological worry (PSWQ). With this, two questions remained, namely (a) if procrastination and perfectionism were specific features of worry and, if so, (b) for which of the two aspects of worry they were specific.

Partial Correlations

To answer these questions, three sets of partial correlations were computed. Set 1 comprised amount of worry, anxiety, and depression; Set 2 comprised pathological worry, anxiety, and depression; and Set 3 comprised amount of worry, pathological worry, anxiety, and depression. For Set 1 and Set 2, second-order partial correlations (i.e., correlations of each measure while holding the other two constant) with the feature variables were computed; for Set 3, third-order partial correlations (i.e., correlations of each measure while holding the other three constant) with the feature variables were computed.

These computations revealed the following picture (cf. Table 2). After controlling for anxiety and depression, amount of worry (WDQ) still displayed significant correlations with the same feature variables as in the zero-order correlations, except for personal standards (cf. Set 1). In comparison, anxiety and depression showed only nonsignificant correlations with the feature variables after amount of worry was partialed out. For pathological worry (PSWQ), the case was quite different (cf. Set 2). When controlling for anxiety and depression, pathological worry displayed only two significant correlations, namely with total perfectionism and with concern over mistakes. Moreover, anxiety and depression still showed small but significant correlations with the feature variables after pathological worry was partialed out. Thus, all feature variables showed closer associations with amount of worry than with pathological worry. This became even more evident in Set 3. Amount of worry still showed significant correlations with all feature variables (except personal standards) after pathological worry was additionally partialed out. Pathological worry, however, showed only one significant correlation (with concern over mistakes and doubts) after amount of worry was additionally partialed out. Anxiety and depression showed no unique relationships with the feature variables.

Discussion

In sum, the analyses yielded three main results. First, worry showed reliable and substantial relationships with procrastination and perfectionism. With respect to the three core dimensions of perfectionism, as conceptualized by the Frost Multidimensional Perfectionism Scale (Frost et al., 1990; Stöber, 1998b), this holds primarily for the first dimension, concern over mistakes and doubts about actions. To a much lesser degree, amount of worry was also associated with the

second dimension, parental expectations and criticism. In contrast, there was no substantial correlation with the third dimension, personal standards, suggesting that high-worriers may not hold excessively high personal standards compared to low-worriers. On the contrary, as indicated by the Aspiration Level Scale (Wieland-Eckelmann & Bösel, 1987), high-worriers reported a significant greater tendency to lower their standards under stress. Second, these relationships were specific for worry, not for anxiety and depression. Third, regarding the aspects of worry, they were specific for amount of worry, not for pathological worry.

As to the first result, the correlations between worry and procrastination support Breznitz' (1971) theoretical analysis of worry. Moreover, the results on worry and perfectionism support the interpretation of the experimental findings on worry and elevated evidence requirements (Metzger et al., 1990; Pratt et al., 1997; Tallis et al., 1991), namely that perfectionist concern over mistakes and doubts about actions may be responsible for worriers' procrastination and indecision. Moreover, the combination of concern over mistakes and procrastination may be a crucial factor in the maintenance of worry. On the one hand, it may prolong existing threats because no steps are taken to cope. On the other hand, it may increase existing threats or even produce additional threats because initially solvable problems will pile up, thus creating an overload of problems that may finally be insoluble (Tallis, 1990).

With respect to potential origins of these decision problems, Tallis (1990) argued that worriers' elevated evidence requirements might be related to parental rearing styles. The present analysis corroborates this notion as amount of worry showed a substantial correlation with the perfectionism subscale Parental Expectations and Criticism. Parental representations are probably not valid indicators of the actual parental behavior. First, there may be mood-and-memory effects (Bower, 1981). Moreover, retrospective memories may be distorted in order to be congruent with a person's view of his or her present personality (Halverson, 1988). Still, whether veridical or not, currently activated representations of early relationships with primary caregivers may be important for understanding normal and pathological characteristics and functioning, personality development, and self-concept (Blatt, Auerbach, & Levy, 1997; Pincus & Ruiz, 1997). Therefore, the issue of parental representations and worry deserves further attention (cf. Borkovec et al., in press).

In contrast, perfectionist personal standards did not show any meaningful correlations with worry. Instead, worry was significantly related to the tendency to lower one's standards when under stress. This suggests that worriers' elevated evidence requirements do not reflect perfectionist personal standards. Moreover, because excessive standards were not related to worry, the common therapeutic advice for perfectionists to lower one's standards (Burns, 1980) would not work for worriers. Worriers do not want to be the best, they are just afraid of making mistakes.

As to the second result, previous research has found considerable overlap between worry, anxiety, and depression as well as significant relationships of anxiety and depression with procrastination and perfectionism (cf. Introduction). Therefore, neither the high correlations of depression and anxiety with the two worry measures nor the significant correlations of depression and anxiety with procrastination and perfectionism are remarkable. What is remarkable, however, is that the latter correlations dropped to values around zero, once worry (particularly amount of worry) was partialed out. This finding can be understood in terms of interpreting worry as "anticipatory anxiety" (Butler & Mathews, 1987). If this future-directed cognitive component is extracted from anxiety (BAI) and depression (BDI), the remaining parts of anxiety (e.g., nervousness, hands trembling, inability to relax) and depression (e.g., sadness,

guilt, self-dislike) are unrelated to procrastination and perfectionism. Thus, it is worry linking anxiety and depression to procrastination and perfectionism. Moreover, this indicates that worry is an important component not only of anxiety, but also of depression (Borkovec et al., in press; Stöber, 1998c). Consequently, cognitive research and therapy on depression may benefit from paying closer attention to worry.

As to the third result, the partial correlations with the two worry measures corroborate previous findings of marked differences between amount of worry and pathological worry (Davey, 1993; Stöber, 1995; Stöber & Bittencourt, 1998). Perfectionism and procrastination were uniquely related to amount of worry, not to pathological worry. This finding may seem surprising, but may be explained by a closer look at the contents of the respective residuals. If amount of worry (WDQ) is extracted from pathological worry (PSWQ), the PSWQ residuals may capture only general distress or pathology. General distress, however, does not seem to be related to procrastination and perfectionism. In comparison, if pathological worry (PSWQ) is extracted from amount of worry (WDQ), the WDQ residuals may capture "net worry", that is total worry minus excessiveness, persistence, uncontrollability, and associated distress. Thus, procrastination and perfectionism relates to how much a person worries, independent of how he or she feels about his or her worrying.

The main limitations to the present study pertain to the following three points. First, with 136 female participants and 44 male participants, the present sample contained an extremely skewed sex ratio. Whereas our LISREL analysis did not find any differences between the correlation matrices of the two groups, future studies should include more male participants to substantiate the present findings for both sexes. Second, all data were correlational. Thus the association between worry, procrastination, and perfectionism may have been due to a third variable. A likely candidate in this respect is social anxiety. Clients diagnosed with social phobia have shown elevated concern over mistakes and doubts about actions (Antony et al., 1998; Juster, Heimberg, Frost, Holt, Mattia, & Faccenda, 1996), and our measure of amount of worry (WDQ) seems to capture mainly social-evaluative concerns (Eysenck & van Berkum, 1992). So, it is perhaps not worry <u>per se</u> that is related to procrastination and perfectionism, but worry about being evaluated by others. Future studies may therefore include social anxiety as a further control variable. Third, all data were cross-sectional, so they do not allow causal inferences. Moreover, in the present case, they do not allow for causal modeling because of potential feedback loops between worry and the characteristic variables (cf. Baron & Kenny, 1986). Future studies on worry, procrastination, and perfectionism may therefore employ longitudinal designs (e.g., repeated assessment of worry and procrastination across an interval of several weeks, while controlling for anxiety and depression). Despite the above limitations, we believe that the present findings may provide a further step forward to a more complete understanding of the nature, functions, and origins of worry.

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Footnotes

[1]We thank an anonymous reviewer for this suggestion.

[2]We are aware of the problems associated with using the term "depression" when referring to BDI scores in student samples (cf. Coyne, 1994; Kendall, Hollon, Beck, Hammen, & Ingram, 1987). Whereas we agree that variations in students' BDI scores may well be irrelevant to an understanding of major depressive disorder, we do believe that findings from correlational research with college students are relevant to an understanding of depressive symptomatology (see Vredenburg, Flett, & Krames, 1993, pp. 337-338). Therefore, here and in the following, the term "depression" may be understood as an abbreviation for the more precise, but lengthy term "depressive symptomatology".

[3]The reason for this "synchronization" was as follows. Without modification of BAI and BDI, we would have confounded construct measurement with time-frame measurement. Using the original answer formats would have resulted in a comparison of amount of worry and pathological worry in general with anxiety during the last week and depression today. With this, any differences in the correlation patterns of worry, anxiety, and depression may have been attributed to construct, time frame, or some interaction of the two.

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Table 1

Descriptives, Reliabilities, and Zero-Order Correlations

Variable		Description	M	SD	range	α	Correlation			
							WDQ	PSWQ	BAI	BDI_{ln}[a]
WDQ		Amount of worry	29.41	14.70	4–81	.90				.55***
PSWQ		Pathological worry	44.65	9.75	24–73	.88	.62***			.51***
BAI		Anxiety	34.43	15.96	2–84	.89	.52***	.57***		.46***
BDI		Depression	4.17	4.14	0–23	.82	.59***	.52***	.49***	.90***
TPS		Procrastination	47.73	12.63	24–77	.92	.41***	.32***	.30***	.32***
FMPS	total	Perfectionism	72.60	17.41	34–128	.90	.49***	.38***	.35***	.28***
	CMD	Concern over mistakes and doubts	30.60	8.92	14–55	.87	.62***	.52***	.38***	.34***
	PEC	Parental expectations and criticism	20.77	8.29	9–43	.90	.26***	.15*	.24**	.17*
	PS	Personal standards	21.23	5.32	8–32	.78	.17*	.14	.13	.09
ALS		Lowering of standards under stress	32.75	6.23	11–45	.77	.34***	.23**	.26***	.20**

Note. N = 180. α = Cronbach's alpha. WDQ = Worry Domains Questionnaire; PSWQ = Penn State Worry Questionnaire; BAI Beck Anxiety Inventory; BDI = Beck Depression Inventory (short form); TPS = Tuckman Procrastination Scale; FMPS = Frost Multidimensional Perfectionism Scale with total = total score, CMD = Concern over Mistakes and Doubts, PEC = Parental Expectations and Criticism, and PS = Personal Standards (cf. Stöber, 1998b); ALS = Aspiration Level Scale.

[a]BDI_{ln} = ln (BDI + 1)

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

Table 2

Second-Order and Third-Order Partial Correlations

Variable		Set 1			Set 2			Set 3			
		WDQ	BAI	BDI_{ln}	PSWQ	BAI	BDI_{ln}	WDQ	PSWQ	BAI	BDI_{ln}
TPS		.28***	.03	.11	.14	.06	.17*	.23**	.05	.01	.10
FMPS	total	.36***	.13	–.01	.20**	.15*	.07	.32***	.08	.10	–.03
	CMD	.50***	.10	–.02	.36***	.10	.08	.42***	.21**	.02	–.06
	PEC	.15*	.12	.01	–.01	.17*	.07	.17*	–.07	.13	–.02
	PS	.11	.06	–.02	.08	.06	.00	.09	.04	.04	–.03
ALS		.24**	.10	.00	.08	.13	.07	.22**	–.01	.09	.00

Note. N = 180. Set 1 and Set 2 = second-order partial correlations (correlations of one set variable while controlling for the other two set variables); Set 3 = third-order partial correlations (correlations of one set variable while controlling for the other three set variables). WDQ = amount of worry, PSWQ = pathological worry, BAI = anxiety, BDI_{ln} = depression, FMPS total = Perfectionism (total score), CMD = concern over mistakes and doubts, PEC = parental expectations and criticism, PS = personal standards, ALS = lowering of standards under stress.

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