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DIMENSIONS OF PERFECTIONISM AND ANXIETY SENSITIVITY

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ABSTRACT: The current study investigated the extent to which dimensions of perfectionism are associated with components of the anxiety sensitivity construct. A sample of 177 undergraduate students completed the Multidimensional Perfectionism Scale, the Perfectionism Cognitions Inventory, the Perfectionistic Self-Presentation Scale, and the Expanded Anxiety Sensitivity Index developed by Taylor and Cox (1998). The results confirmed that automatic thoughts involving perfectionism and the interpersonal aspects of the perfectionism construct are associated with anxiety sensitivity. Examination of the Anxiety Sensitivity Index factors showed that perfectionism cognitions were associated primarily with anxiety sensitivity involving fears of cognitive dyscontrol, while socially prescribed perfectionism and perfectionistic self-presentation were associated primarily with fears of publicly observable anxiety reactions in a manner suggesting that the interpersonal perfectionism dimensions are linked closely with an anxious sensitivity to negative social evaluation and subsequent panic attacks. The theoretical and treatment implications of the link between perfectionism and anxiety sensitivity are discussed.

KEY WORDS: anxiety sensitivity; cognitions; fear; perfectionism.

Research investigations of the role of perfectionism in psychopathology have found that there are many different ways to conceptualize the perfectionism construct (Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991b). It is now generally accepted that perfectionism

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has personal and interpersonal components, and these components are associated differentially with such phenomena as depression, suicide ideation, personality disorder, and the endorsement of irrational beliefs (Flett, Hewitt, Blankstein, & Koledin, 1991; Flett, Hewitt, Blankstein, Solnik, & Van Brunschot, 1996; Hewitt, Flett, & Turnbull-Donovan, 1992, 1994).

Several studies have examined the role of perfectionism in anxiety (for reviews, see Alden, Ryder, & Mellings, 2002; Frost & DiBartolo, 2002). Perfectionism is linked with state and trait anxiety in student samples, especially in ego-involving situations (Flett, Hewitt, Endler, & Tassone, 1994/1995), as well as with a host of irrational fears (Blankstein, Flett, Hewitt, & Eng, 1993). Clinical research has confirmed anxiety disorder patients have high scores on certain dimensions of perfectionism (Hewitt & Flett, 1991a). For instance, several studies have found that perfectionism scores are elevated in patients with either panic disorder or panic disorder with agoraphobia (Antony, Purdon, Huta, & Swinson, 1998; Frost & Gross, 1993; Frost & Steketee, 1997; Iketani et al., 2002a, 2002b; Matsunaga et al., 2000; Saboonchi, Lundh, & Ost, 1999).

The purpose of the current article is to extend research in this area by examining the link between perfectionism and anxiety sensitivity. Ellis (1962) observed that people who are prone to have elevated levels of anxiety, typically in the form of panic symptoms, seem to be characterized by a fear of their own fear (anxiety sensitivity). Recently, Ellis (2002) went a step further and suggested that perfectionists are likely to be characterized by high levels of anxiety sensitivity because their all-or-none approach includes the belief that they must be perfectly free from panic, and this belief is activated as the discomfort of panic sensations become more apparent. Ellis (2002) concluded by noting the need for empirical research on this topic.

Although there is a paucity of research on perfectionism and anxiety sensitivity, the link between panic disorder and dimensions such as socially prescribed perfectionism (Antony et al., 1998) points to the possibility that anxiety sensitivity is associated with perfectionism, since anxiety sensitivity is a cognitive risk factor for panic disorder (Ehlers, 1995; McNally, 1994). Flett, Hewitt, Oliver, and Macdonald (2002) also described evidence suggesting that perfectionism is associated with the behavioral inhibition system (Gray, 1982), and perfectionists seem to have a fearful sensitivity to signals of punishment and nonreward. This hypothesized anxiety sensitivity may account for per-

fectionists' fear of and inability to tolerate failure (Flett, Blankstein, Hewitt, & Koledin, 1992).

Although a link between perfectionism and anxiety sensitivity is plausible, as noted previously, existing research on perfectionism and anxiety sensitivity is quite limited at present. Indirect evidence of a possible link was reported by Flett, Hewitt, Blankstein, and Gray (1998), who administered the Perfectionism Cognitions Inventory (PCI) and the Distressing Thoughts Questionnaire (DTQ; Clark & Helmsley, 1985) to a sample of 140 students. The DTQ consists of a series of six distressing thoughts relevant to depression and six distressing thoughts relevant to anxiety (e.g., thoughts or images of a personally embarrassing, humiliating, or painful experience). These thoughts and images are rated on several dimensions, including the extent of worry about the anxiety-provoking thoughts (How worried does this thought or image make you feel?). On the surface, this dimension taps, albeit indirectly, the fear of anxiety concept and associated harmful consequences that are central to the anxiety sensitivity construct. Flett et al. (1998) found that a greater frequency of perfectionism cognitions was correlated significantly with the amount of worry associated with the experience of the anxious thought/image. Trait perfectionism was not assessed in this study.

Direct evidence of a link between perfectionism and anxiety sensitivity was reported by Cox, Enns, Walker, Kjernisted, and Pidlubney (2001) as part of a study of personality variables in major depression and panic disorder. The battery of measures in this study included the Anxiety Sensitivity Index (ASI; Peterson & Reiss, 1992) and the self-oriented perfectionism subscale of the Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991b, in press). Scales were administered to a mixed psychiatric sample comprised of 38 patients with major depression and 38 patients with panic disorder. Cox et al. found that anxiety sensitivity was correlated significantly with self-oriented perfectionism ($r = .33$, $p < .001$) in the combined sample. Anxiety sensitivity factors were not investigated in this study. Unfortunately, other dimensions of perfectionism were not included in this research.

Here we describe the results of an investigation that examines both the anxiety sensitivity construct and the perfectionism construct from a multidimensional perspective. Several investigators have conducted analyses of the anxiety sensitivity construct, and they have confirmed that anxiety sensitivity is multidimensional. Analyses of the original ASI have revealed the presence of three factors that resemble fear of

somatic symptoms of anxiety, fear of cognitive symptoms of anxiety, and fear of publicly observable symptoms (Cox, 1996; Taylor, 1996; Zinbarg, Barlow, & Brown, 1997). Although the somatic and cognitive factors are assessed with an adequate degree of reliability, concerns have been raised about the factor that assesses the fear of publicly observable symptoms because the original ASI has relatively few items that tap this aspect of the construct (Deacon & Valentiner, 2001). Taylor and Cox (1998) responded to this concern by creating expanded measures of anxiety sensitivity that assess a number of dimensions, including the dimension that focuses on fear of publicly observable symptoms, with an adequate degree of reliability. For instance, the expanded ASI is a 36-item scale that assesses four factors: fear of cardiac symptoms, fear of cognitive dyscontrol, fear of publicly observable symptoms, and fear of respiratory symptoms. We opted to use this extended measure of anxiety sensitivity in the current study because we were particularly interested in examining the extent to which dimensions of perfectionism are associated with fear of publicly observable symptoms. This emphasis is in keeping with general evidence of the role of social-evaluative concerns in perfectionism (Hewitt & Flett, 1991b) as well as indications that anxiety sensitivity is associated with fear of negative evaluation (Greenburg & Burns, 2003; McWilliams, Stewart, & MacPherson, 2000; Roth, Coles, & Heimberg, 2002).

Three instruments assessing perfectionism were included in the current study. The MPS (Hewitt & Flett, 1991b, in press) is a trait measure that assesses three dimensions of perfectionism: self-oriented perfectionism (i.e., high self-standards), other-oriented perfectionism (i.e., demanding perfection from other people), and socially prescribed perfectionism (i.e., pressure imposed by others on the self to be perfect). The MPS was administered so that we could evaluate the association between socially prescribed perfectionism and anxiety sensitivity, especially in terms of the fear of observable symptoms. Also, inclusion of this measure enabled us to test the replicability of the positive association between self-oriented perfectionism and anxiety sensitivity that was reported by Cox et al. (2001).

The PCI (Flett et al., 1998) was also included in this research. Cognitive rumination over mistakes and imperfections has been noted often in the perfectionism literature (Frost & Henderson, 1991; Frost et al., 1997; Guidano & Liotti, 1983). Flett et al. observed that there is a need to develop specific measures of automatic thoughts that reflect personality factors associated with vulnerability to psychological distress, as

a supplement to general indexes of automatic thoughts such as the Automatic Thoughts Questionnaire (Hollon & Kendall, 1980). The PCI is based on the premise that perfectionists who sense a discrepancy between their actual self and the ideal self, or their actual level of goal attainment and high ideals, will tend to experience automatic thoughts that reflect perfectionistic themes (Flett et al., 1998). Flett et al. conducted several studies that showed that the PCI was correlated significantly with symptoms indexes of anxiety and depression, and it accounted for unique variance in psychological distress, even after using existing trait measures of perfectionism and general measures of negative automatic thoughts to remove variance in adjustment scores.

Other research has found that high PCI scorers have a ruminative response orientation and report elevated levels of perseverative thoughts following the experience of failure, and they report more imaginal processes that involve themes of fear of failure and lack of attentional control (Flett et al., 1998; Flett, Madorsky, Hewitt, & Heisel, 2002). The PCI was included in the current investigation so that we could specifically examine whether the frequent experience of perfectionism cognitions is associated with the anxiety sensitivity component involving fear of cognitive dyscontrol (Taylor & Cox, 1998). This association would be in keeping with the view that the experience of automatic thoughts that produce anxious forms of distress is linked with a cognitive form of anxiety sensitivity.

Finally, the other perfectionism measure included in the current study was the newly developed Perfectionistic Self-Presentation Scale (Hewitt et al., 2003). This is a multidimensional scale that assesses the extent to which an individual feels a need to present an image of flawlessness to others (perfectionistic self-promotion) or hides flaws and mistakes from others (nondisplay of imperfection) or is unwilling to communicate shortcomings and flaws to others (nondisclosure of imperfection). Thus, it focuses on the outward expression of perfectionism as a stylistic trait. Extensive psychometric analyses have confirmed that this instrument consists of three factors with adequate psychometric properties (Hewitt et al., 2003). Moreover, the facets of perfectionistic self-presentation have been associated with a variety of negative outcomes, including low self-esteem (Hewitt, Flett, & Ediger, 1995; Hewitt et al., 2003), reduced sexual satisfaction (Habke, Hewitt, & Flett, 1999), and diagnosed eating disorders (Cockell et al., 2002).

The Perfectionistic Self-Presentation Scale was included in the current investigation in order to test the hypothesis that individuals with high levels of perfectionistic self-presentation have high anxiety sensi-

tivity, especially in terms of being highly sensitive to public displays of anxiety symptoms. This possibility is likely given that perfectionistic self-presentation is associated with public self-consciousness (Hewitt et al., 2003), and Cox, Borger, Taylor, Fuentes, and Ross (1999) reported evidence indicating that anxiety sensitivity is associated with a facet of trait neuroticism that assesses public self-consciousness.

In summary, the current study examined perfectionism and anxiety sensitivity from a multidimensional perspective. We hypothesized that perfectionism would be associated generally with anxiety sensitivity and that there would also be links between perfectionism cognitions and fears of cognitive dyscontrol, as well as between perfectionistic self-presentation and fear of observable symptoms of anxiety.

METHOD

Participants

The participants were 177 undergraduate students (111 women, 66 men) from an introductory psychology course at York University. The mean age of the participants was 20.15 years (SD = 2.83). Participants received one course credit for their participation in this research.

Materials and Procedure

The participants were asked to volunteer as part of a broader study of "personality and adjustment." If participants indicated their consent, they were administered a battery of measures that included the following questionnaires.

Multidimensional Perfectionism Scale (MPS). The MPS (Hewitt & Flett, 1991b, in press) is a 45-item measure designed to measure self-oriented, other-oriented, and socially prescribed perfectionism. Respondents make 7-point ratings of such statements as "When I am working on something, I cannot relax until it is perfect" (self-oriented perfectionism), "I have high expectations for the people who are important to me" (other-oriented perfectionism), and "I feel that people are too demanding of me" (socially prescribed perfectionism). Higher scores reflect greater trait perfectionism. Research has confirmed that the MPS is multidimensional and the subscales have adequate internal consistency and validity (Frost, Heimberg, Holt, Mattia, & Neubauer,

1993; Hewitt & Flett, 1991b; Hewitt, Flett, Turnbull-Donovan, & Mikail, 1991). Also, there is evidence that the MPS subscales are not influenced significantly by response biases (Hewitt & Flett, 1991b; Hewitt et al., 1991). The respective alphas in the current study were .87 for self-oriented perfectionism, .72 for other-oriented perfectionism, and .83 for socially prescribed perfectionism.

The Perfectionism Cognitions Inventory. Participants completed the 25 PCI items. The PCI instructions were patterned after the measures of automatic thoughts. Note that the 25 items that comprised the final version of the PCI were selected on the basis of extensive item analyses, including ratings of the appropriateness of scale content by perfectionism researchers (see Flett et al., 1998). Some representative thoughts on the scale are "I should be perfect," "I have to be the best," and "Why can't I be perfect?" Respondents are asked to indicate the frequency with which they have experienced these thoughts during the past week. Higher scores represent a greater frequency of perfectionistic cognitions. The alpha for the PCI in the current study was .91.

Perfectionism Self-Presentation Scale (PSPS). The PSPS is a 27-item multidimensional scale that assesses an individual's need to appear perfect to others (Hewitt et al., 2003). The PSPS consists of three subscales that assess perfectionistic self-promotion (the need to appear perfect to others), the nondisplay of imperfection (the need to avoid appearing imperfect to others), and nondisclosure of imperfection (the need to avoiding disclosing imperfections to others).

A representative item for perfectionistic self-promotion is "I strive to look perfect to others." The nondisplay of imperfection factor is represented by such items as "I do not care about making mistakes in public"; reverse-keyed. Finally, the nondisclosure of imperfection factor consists of items such as "Admitting failure to others is the worst possible thing." Higher scores reflect greater perfectionistic self-presentation.

Hewitt et al. (in press) found strong evidence of a three-factor solution in various samples. A high degree of internal consistency was found for each of the three subscales. The alpha coefficients were .86, .83, and .78 for the perfectionistic self-promotion factor, the nondisplay of imperfection factor, and the nondisclosure of imperfection factor, respectively. The respective alphas were .87, .86, and .84 in the current study. Research has indicated that the three PSPS factors are correlated significantly with the MPS factors (Hewitt et al., 1995; Hewitt et

al., 2003). The authors also reported that the three PSPS factors had a high level of test–retest reliability over a 2-month period, with test–retest correlations ranging from .74 to .84.

Anxiety Sensitivity Index-Revised. The ASI-Revised (ASI-R; Taylor & Cox, 1998) is a 36-item measure designed to tap six specific anxiety sensitivity themes, including fear of cardiovascular symptoms, fear of respiratory symptoms, fear of publicly observable symptoms, fear of gastrointestinal symptoms, fear of dissociative and neurological symptoms, and fear of cognitive dyscontrol. A factor analysis of the ASI-R by Taylor and Cox of the responses of 155 people seeking cognitive-behavior therapy yielded a four factor solution, with the four-factors resembling fear of cardiovascular symptoms ("When I feel pain in my chest, I worry that I'm going to have a heart attack"), fear of cognitive dyscontrol ("It scares me when I am unable to keep my mind on a task"), fear of publicly observable symptoms ("I worry that other people will notice my anxiety"), and fear of respiratory symptoms ("Smothering sensations scare me"). In the current study, analyses focused on total ASI-R scores and the scores for these four factors. Higher scores on each factor represent greater anxiety sensitivity. Taylor and Cox reported that the four factors were intercorrelated, with their associations ranging between .28 and .40. They also reported that all four factors were associated positively with scores on the Beck Anxiety Inventory and the Beck Depression Inventory. The respective alphas in the current study were .90 for fear of cardiovascular symptoms, .91 for fear of cognitive dyscontrol, .83 for fear of publicly observable symptoms, and .89 for fear of respiratory symptoms.

RESULTS

Our initial analyses compared men and women in terms of their mean scores on the various anxiety sensitivity and perfectionism factors. The analysis of ASI-R factors yielded no significant differences. Similarly, there were few significant gender differences in mean levels of perfectionism. The only perfectionism factor that differed significantly for men versus women was the self-presentational need to avoid displaying imperfections, F (1, 175) = 4.09, $p < .05$. Further inspection showed that women had significantly higher scores on this factor (M = 44.48, SD = 12.02) than did men (M = 40.80, SD = 11.18).

Correlational Analyses

Correlations between the various perfectionism dimensions and the anxiety sensitivity measures are shown in Table 1 for the total sample, and separately for men and women. Analyses indicated that there was

Table 1

Correlations of the Perfectionism Measures with the Anxiety Sensitivity Measures

	Perfectionism Measures						
Anxiety Sensitivity	*Self*	*Other*	*Social*	*PCI*	*PSPS1*	*PSPS2*	*PSPS3*
Total Sample							
Anxiety Sensitivity-Total	.12	.07	.34**	.41**	.39**	.34**	.29**
Fear of Cardiovascular Symptoms	.04	.11	.19	.34**	.25*	.18	.23*
Fear of Cognitive Dyscontrol	.08	.04	.29*	.42**	.26**	.27**	.25*
Fear of Observable Symptoms	.19	.10	.34**	.35**	.53**	.52**	.33**
Fear of Respiratory Symptoms	.09	–.02	.28**	.25*	.24*	.20*	.15
Men (n = 66)							
Anxiety Sensitivity-Total	.10	.03	.37*	.34*	.32	.25	.19
Fear of Cardiovascular Symptoms	–.03	.11	.19	.34**	.25*	.18	.23*
Fear of Cognitive Dyscontrol	–.06	.04	.29*	.42**	.26**	.27**	.25*
Fear of Observable Symptoms	.31	.10	.34**	.35**	.53**	.52**	.33**
Fear of Respiratory Symptoms	.10	–.02	.28**	.25*	.24*	.20*	.15
Women (n = 111)							
Anxiety Sensitivity-Total	.13	.11	.32*	.45**	.42**	.38**	.35*
Fear of Cardiovascular Symptoms	.09	.13	.17	.35**	.32*	.26*	.25*
Fear of Cognitive Dyscontrol	.15	.11	.28*	.50**	.32**	.34**	.31*
Fear of Observable Symptoms	.12	.09	.35**	.36**	.55**	.54**	.39**
Fear of Respiratory Symptoms	.08	.03	.24	.29*	.19	.16	.22

Notes. Based on complete data from 177 participants. The following abbreviations were used: PSPS1 (Perfectionistic Self-Promotion), PSPS2 (Nondisplay of Imperfection), and PSPS3 (Nondisclosure of Imperfection).
**$p < .001$, *$p < .01$.

little association between self-oriented perfectionism and anxiety sensitivity, with the exception of a link between this perfectionism and fear of publicly observable symptoms of anxiety. This link was detected in the total sample and in the male subsample. Other-oriented perfectionism was not associated significantly with anxiety sensitivity.

In contrast, as seen in Table 1, socially prescribed perfectionism in the total sample was associated significantly with overall anxiety sensitivity scores, $r = .34$, $p < .001$, and with three of the four anxiety sensitivity factors. The same general pattern of correlations emerged for men and women in terms of the associations involving the anxiety sensitivity factors, with the fear of publicly observable symptoms having the more robust associations with socially prescribed perfectionism.

Analyses involving perfectionism cognitions showed that men and women who reported experiencing more frequent thoughts involving perfectionism themes had elevated scores on all four dimensions of anxiety sensitivity. As expected, the strongest associations were between the PCI and the fear of cognitive dyscontrol for both men, $r = .42$, $p < .001$, and women, $r = .50$, $p < .001$.

Finally, the results involving the various dimensions of perfectionism self-presentation highlighted the close association between perfectionistic self-presentation and fear of publicly observable symptoms of anxiety. In the total sample, all three dimensions of perfectionistic self-presentation were associated significantly with virtually all of the anxiety sensitivity dimensions, but the most striking correlations were those that involved the fear of publicly observable symptoms of anxiety. For instance, in the total sample, the fear of publicly observable symptoms was associated with the need to engage in perfectionistic self-promotion, $r = .53$, $p < .001$, the need to avoid displaying imperfections, $r = .52$, $p < .001$, and the need to avoid disclosing imperfections to others, $r = .33$, $p < .001$. The pattern of the correlations was generally similar for men and women.

Regression Analyses

Table 2 contains a summary of a series of regression analyses. The total ASI-R score and the four ASI-R scores were included as outcome variables. In each instance, the predictor block consisted of all seven perfectionism measures. The significant predictors within each block are shown in Table 2.

The first analysis examined the ability of the perfectionism measures to predict total ASI-R scores. The overall predictor block was

Table 2

Hierarchical Regression Analyses with Significant Perfectionism Dimensions Predicting Anxiety Sensitivity Measures

Variable	*Adjusted* R^2	*Beta*	*t*
Anxiety Sensitivity-Total			
Predictor Block	.22***		
Perfectionism Cognitions		.35	3.47**
Self-Oriented Perfectionism		–.18	2.04*
Fear of Cardiovascular Symptoms			
Predictor Block	.10**		
Perfectionism Cognitions		.36	3.37**
Nondisplay of Imperfection		.23	2.05*
Fear of Cognitive Dyscontrol			
Predictor Block	.20***		
Perfectionism Cognitions		.47	4.58***
Self-Oriented Perfectionism		–.20	–2.32*
Socially Prescribed Perfectionism		–.16	–2.10*
Fear of Observable Symptoms			
Predictor Block	.30***		
Perfectionistic Self-Promotion		.33	2.81**
Nondisplay of Imperfection		.25	2.49*
Fear of Respiratory Symptoms			
Predictor Block	.06*		
Other-Oriented Perfectionism		.22	2.17*

Notes. Only the significant predictors within each block are shown. Values reflect standardized weights.
*$p < .05$, **$p < .01$, ***$p < .001$.

highly significant, $F\,(7, 169) = 8.01$, $p < .001$. As seen in Table 2, significant individual predictors within the block were perfectionism cognitions and self-oriented perfectionism. Higher levels of perfectionism cognitions and lower levels of self-oriented perfectionism were associated with higher overall anxiety sensitivity.

The analysis predicting fear of cardiovascular symptoms was also significant, $F\,(7, 169) = 3.84$, $p < .01$. Higher levels of fear of cardiovas-

cular symptoms were predicted by higher levels of perfectionism cognitions and the PSPS factor assessing the nondisplay of imperfections (Table 2).

The perfectionism variables were more robust predictors of the ASI-R factors of fear of cognitive dyscontrol, $F\ (7,\ 169) = 7.17$, $p < .001$ and fear of observable symptoms, $F\ (7,\ 169) = 11.67$, $p < .001$. A greater frequency of perfectionism cognitions predicted cognitive dyscontrol as did lower levels of self-oriented and socially prescribed perfectionism. The fear of observable symptoms was predicted jointly by the need to engage in perfectionistic self-promotion and the need to avoid displaying imperfections.

The final analysis indicated that the perfectionism variables as a block were relatively weak predictors of the fear of respiratory symptoms, $F\ (7,\ 169) = 2.54$, $p < .05$. The only significant predictor within the block was other-oriented perfectionism, with higher scores reflecting greater fear of respiratory symptoms.

DISCUSSION

The current study extended existing research on perfectionism and anxiety sensitivity by examining both perfectionism and anxiety sensitivity as multidimensional constructs. That is, we investigated perfectionism not only in terms of trait dimensions (self-oriented, other-oriented, and socially prescribed perfectionism), but also in terms of perfectionism cognitions and perfectionistic self-presentation. Similarly, our analyses of anxiety sensitivity went beyond total anxiety sensitivity scores to also examine the four factors identified by Taylor and Cox (1998).

Overall, our results provided strong support for the observation by Ellis (2002) that perfectionism and anxiety sensitivity are closely linked. The correlational analyses showed that overall anxiety sensitivity and the four anxiety sensitivity factors were associated consistently with five perfectionism measures (socially prescribed perfectionism, perfectionism cognitions, and the three measures of perfectionistic self-presentation). The current findings suggest that the link between these perfectionism dimensions and measures of distress likely reflects, at least in part, the association that these perfectionism dimensions have with anxiety sensitivity.

Examination of the results involving the ASI-R factors provided clear evidence of the usefulness of research and theory on specific per-

fectionism dimensions, as opposed to examining perfectionism as a unidimensional, monolithic entity. For instance, it was found that a greater frequency of perfectionism cognitions was associated most closely with the ASI-R factor assessing the fear of cognitive dyscontrol. That is, high PCI scorers were more likely than low scorers to endorse such statements as "When my mind goes blank, I worry that there is something terribly wrong with me." The current findings suggest the possibility that a sensitivity to fears of cognitive dyscontrol either contributes to the experience of negative automatic thoughts or the experience of negative automatic thoughts, including perfectionistic thoughts, exacerbates this type of anxiety sensitivity. One clear implication of these findings is that there is need for additional research on associated cognitive aspects of fear of cognitive dyscontrol. In addition, from an applied perspective, the fear of cognitive dyscontrol should be a focus of therapeutic interventions when treating distressed perfectionists who experience frequent thoughts about the need to be perfect.

On a similar note, the findings involving the fear of publicly observable symptoms provided strong evidence of the need to assess individual differences in perfectionistic self-presentation as a supplement to a more general focus on trait dimensions such as self-oriented perfectionism and socially prescribed perfectionism. Correlational analyses showed that all three PSPS factors were associated significantly with the fear of observable symptoms, and two of these factors (perfectionistic self-promotion and the need to avoid displaying imperfections) were the significant predictors of this ASI-R factor when all of the perfectionism measures were examined simultaneously as a predictor block. Overall, the link between perfectionistic self-presentation and fear of publicly observable symptoms was the most robust finding in this study. These data are in keeping with accounts that focus on interpersonal concerns and the negative evaluation sensitivity component of the anxiety sensitivity construct (Reiss, 1991; McWilliams et al., 2000).

According to McWilliams et al. (2000), public observable symptoms of anxiety can be feared either because they are anxiety-related sensations or because they arouse concerns about the likelihood of negative evaluation; both may serve to activate fears of possible social catastrophes (Scott, Heimberg, & Jack, 2000). These concerns may be especially salient for perfectionistic self-presenters who wish to obtain social approval and avoid social disapproval. Given their apparent sensitivity to displaying symptoms of fear and perhaps other manifestations of distress, it is likely that some perfectionistic self-presenters

will have a tendency to be low in emotional expression, and they may avoid social situations where their negative emotions will be on display. However, such avoidance may not be possible for some individuals. Specifically, some people who are characterized jointly by perfectionistic self-presentation and anxiety sensitivity may find themselves in occupations that requires them to engage in public performances (e.g., singers, dancers), and these individuals may be particularly distressed by the prospects of displaying symptoms of fear and making observable mistakes that can be detected by others.

As noted previously, our results also indicated that socially prescribed perfectionism was also associated significantly with overall ASI-R scores and with three of the four ASI-R factors. This extends past research that showed a consistent link between socially prescribed perfectionism and anxiety (Hewitt & Flett, 1991a) by showing that socially prescribed perfectionism is also associated with elevated anxiety sensitivity. Perhaps the social pressure inherent in socially prescribed perfectionism plays some etiological role in the development of a heightened sense of anxiety sensitivity.

As for the other trait MPS dimensions, there was little empirical association between the dimensions of anxiety sensitivity and both self-oriented and other-oriented perfectionism when the zero-order correlation analyses were conducted. Also, the regression analyses yielded some findings indicating that self-oriented perfectionism was associated negatively with aspects of anxiety sensitivity when considered in conjunction with other perfectionism measures. As noted earlier, in previous research with psychiatric patients, Cox et al. (2001) found that anxiety sensitivity was correlated significantly with self-oriented perfectionism. Perhaps anxiety sensitivity and self-oriented perfectionism are associated positively among individuals experiencing more extreme levels of distress.

Treatment Implications

Although the current findings need to be replicated and extended in subsequent research, there are many implications for treatment that follow from our findings. First, at a general level, the current findings suggest the explicit need for a focus on anxiety sensitivity when treating perfectionists suffering from anxiety disorders. Given past indications that cognitive-behavioral treatments can be effective in reducing levels of anxiety sensitivity (McNally, 2002; McNally & Lorenz, 1987; Otto & Reilly-Harrington, 1999), perfectionists may benefit from cogni-

tive-behavioral interventions that focus on their fear of fear and their associated tendency to experience frequent, uncontrollable thoughts about the need to be perfect.

Other implications follow from the evidence in this study suggesting that interpersonal aspects of perfectionism (socially prescribed perfectionism and perfectionistic self-presentation) are associated with anxiety sensitivity in general, and there are robust associations between aspects of perfectionistic self-presentation and fear of publicly observable symptoms of anxiety. A central treatment focus for these individuals is the need to lessen the importance of seeming perfect to others and to remove associated awfulizing beliefs and catastrophic images about the negative consequences of imperfections being detected by other people. A related concern here is that individuals characterized jointly by perfectionistic self-presentation and fear of publicly observable symptoms may be unable or unwilling to discuss or reveal their manifestations of anxiety to other people, including their therapists and counselors. This possibility suggests that these perfectionists with high anxiety sensitivity may benefit from the type of emotion-focused therapy developed by Shear and colleagues as a means of assisting panic disorder patients with the identification, expression, and acceptance of emotional reactions (Shear, Cloitre, & Heckleman, 1995; Shear, Pilkonis, Cloitre, & Leon, 1994).

Limitations and Directions for Future Research

Although the current findings point to an association between dimensions of perfectionism and anxiety sensitivity, the limitations of the current findings should be noted. First, the current findings are based entirely on self-report data. The inclusion of other measures (e.g., interviewer ratings of perfectionism) would bolster the current findings. Second, the current findings indicate a link between certain dimensions of perfectionism and anxiety sensitivity, but no conclusions about causality can be made from these cross-sectional data.

Clearly, there are many other directions for further investigation. As alluded to previously, there is a need to conduct a broad examination of perfectionism and anxiety sensitivity in clinical patients, and this should be extended to other populations as well (e.g., children and adolescents). It is also important to examine the extent to which anxiety sensitivity might serve as a mediator or moderator of the association between perfectionism and various symptoms of anxiety, including symptoms of panic disorder and social phobia. Finally, it is also impor-

tant to examine the link between anxiety sensitivity and other perfectionism measures, such as the Frost MPS (Frost et al., 1990).

In summary, the results of the current study confirmed a recent suggestion (Ellis, 2002) that perfectionism and anxiety sensitivity are closely associated. Although there was little evidence of an association involving certain perfectionism dimensions, we did find that anxiety sensitivity was associated with elevated perfectionism cognitions and higher levels of interpersonal dimensions of perfectionism (socially prescribed perfectionism and perfectionistic self-presentation). Moreover, particularly strong associations were found between perfectionism cognitions and fear of cognitive dyscontrol, as well as between perfectionistic self-presentation and fear of publicly observable symptoms. Collectively, our findings suggest that the perfectionism and anxiety sensitivity constructs are associated in meaningful ways, and we hope that the current findings provide the impetus for future research on this association and further investigation of the clinical implications of these findings.

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