

## The Impact of Perfectionistic Self-Presentation on the Cognitive, Affective, and Physiological Experience of a Clinical Interview

Paul L. Hewitt, A. Marie Habke, Dayna L. Lee-Baggley, Simon B. Sherry, and Gordon L. Flett

Perfectionistic self-presentation is proposed as a deleterious interpersonal style that has an influence in clinical contexts that involves promoting a public image of perfection and avoiding displays and self-disclosures of imperfections. A sample of 90 clinical patients taking part in a clinical interview were assessed in terms of their levels of perfectionistic self-presentation and trait perfectionism and their affective, cognitive, and physiological reactions. Perfectionistic self-presentation dimensions were associated with (1) greater distress before and after the interview, (2) negative expectations and greater threat prior to the interview, and (3) post-interview dissatisfaction. Analyses of physiological data found that perfectionistic self-presentation was associated with higher levels of heart rate when discussing past mistakes, and, as expected, the need to avoid disclosing imperfections predicted higher levels of and greater change in heart rate when discussing past mistakes. Analyses that controlled for trait perfectionism and emotional distress showed that the need to avoid disclosing imperfections was a unique predictor of (1) appraisals of the interviewer as threatening before the interview and as dissatisfied after the interview; (2) negative pre and post self-evaluations of performance; and (3) greater change in heart rate when discussing mistakes. Perfectionistic self-presentation is discussed as an interpersonal style that can influence therapeutic alliance and treatment success.

Recently there appears to have been a re-focusing on research dealing with personality variables in treatment-related issues (Blatt & Zuroff, 2005; PDM Task Force,

2006). For instance, extensive work indicates that personality variables may have an impact on psychotherapy (e.g., Beutler, 1991; Garfield, 1994) and that assessment of these traits

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*Paul L. Hewitt, Marie Habke, and Dayna L. Lee-Baggley* are affiliated with the University of British Columbia in Vancouver, Canada. *Simon B. Sherry* is affiliated with Dalhousie University, and *Gordon L. Flett* with York University.

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Address correspondence to Paul L. Hewitt, PhD, Department of Psychology, University of British Columbia, 2136 West Mall, Vancouver, BC V6T 1Z4. E-mail: HewittLab@psych.ubc.ca.

and processes may be more relevant in treatment of psychological disturbances than focusing solely on symptoms of a specific disorder (e.g., Blatt & Zuroff, 2002). Recent research on the treatment of perfectionism has pointed to perfectionism as a personality factor that is detrimental to positive psychotherapeutic outcomes. For example, Zuroff, Blatt, and colleagues, using data from the NIMH-sponsored Treatment for Depression Collaborative Research Program, found that perfectionism, operationalized simply as attitudes related to perfectionistic behavior, predicted poor treatment outcomes (i.e., social adjustment, depression severity, and overall clinical functioning) up to 18 months following treatment (see Blatt, Quinlan, Pilkonis, & Shea, 1995; Blatt, Zuroff, Bondi, Sanislow, & Pilkonis, 1998). Other research on the stability of perfectionism and depression over time has shown that even when interventions are successful in lessening levels of perfectionism and depression, post-test data still indicate that perfectionism predicts persistent residual symptoms (Cox & Enns, 2003).

Since the establishment of perfectionism as a deleterious therapy factor, Blatt and Zuroff and their colleagues conducted more fine-grained analyses designed to identify the specific factors and processes that are related to perfectionism and contribute to poorer treatment outcomes. For instance, patients with high levels of perfectionistic attitudes were shown to be unable to build a positive alliance with their therapist and this inability mediated the negative relationship between perfectionistic attitudes and treatment outcomes (Zuroff et al., 2000).

It is now generally accepted that the perfectionism construct is multidimensional and it is important to assess different perfectionism dimensions in terms of their links with distress and psychopathology. Unfortunately, at present, this has not translated into exten-

sive programmatic research on the role of various perfectionism dimensions in treatment outcomes. The original papers by Blatt and Zuroff and colleagues are illuminating but this research is based on the unidimensional measure of perfectionism derived from the Dysfunctional Attitudes Scale<sup>1</sup> that confounds several of the perfectionism dimensions found in other work (see Sherry, Hewitt, Flett, & Harvey, 2003). Although research is beginning to explore the role of various dimensions of perfectionism in treatment response (e.g., Ashbaugh, Antony, Liss, Summerfeldt, McCabe, & Swinson, 2007; Enns, Cox, & Pidlubny, 2002; McCown & Carlson, 2004), there is still a great need for additional research based on multidimensional conceptualization of the perfectionism construct. The goal of this paper is to begin to address this void by incorporating a focus on perfectionistic self-presentation, a component of the perfectionism construct that appears to be particularly germane to clinical and psychotherapeutic situations (Hewitt, Lee-Bagley, Flett, Blasberg, Han, & Tomlin, 2006). A brief description of trait perfectionism and perfectionistic self-presentation follows.

#### MULTIDIMENSIONAL PERFECTIONISM

Although unidimensional attitudinal conceptualizations of perfectionism have existed for some time, several multidimensional models of perfectionistic behavior have dominated the literature over the past decade (e.g., Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991b; Hewitt et al., 2003). We have conceptualized perfectionism as a multidimensional construct that encompasses three broad domains of personality including perfectionism traits (Hewitt & Flett, 1991b), perfectionistic self-presentational styles

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1. As Blatt and Zuroff have noted (see, for example, Blatt, 1999), the selection of Weissman and Beck's (1978) model in the NIMH studies was a decision made by other researchers (e.g., Imber et al., 1990).

(Hewitt et al., 2003), and automatic cognitive processing (Flett, Hewitt, Blankstein, & Gray, 1998; Hewitt & Genest, 1990). In terms of perfectionism traits, we (Hewitt & Flett, 1991b) described both intrapersonal and interpersonal trait components that include a requirement for the self to be perfect (self-oriented perfectionism), requirement for others to be perfect (other oriented perfectionism) and perceptions that others require perfection of oneself (socially prescribed perfectionism). The trait dimensions are seen to be directly linked to maladjustment and act as vulnerability factors or concomitants in psychological, relationship, physical, and achievement problems (Hewitt & Flett, 2002). Numerous studies show that these trait dimensions are independent and that each trait dimension is differentially associated with various kinds of psychopathology (see Flett & Hewitt, 2002 for reviews).

In addition to trait dimensions of perfectionism, we have also described an aspect of perfectionism that may be particularly relevant for therapeutic relationships and clinical endeavors: perfectionistic self-presentation (PSP). In contrast to the perfectionism traits, which require the self or others to *be* perfect, PSP involves the drive to *appear* to others as if one is perfect. Consistent with Sullivan's notion that personality is made manifest through interpersonal interactions (Sullivan, 1938/2000), PSP represents the interpersonal expression of perfectionism wherein individuals engage in self-presentational strategies that promote their supposed perfection to others and that conceal their perceived imperfections from others (Hewitt et al., 2003). Hewitt and colleagues (2003) proposed and demonstrated that PSP is multidimensional and comprises three facets. First, *perfectionistic self-promotion* reflects an acquisitive self-presentational style involving a need to promote one's self as perfect by actively and unrealistically presenting one's "perfection," such as positive qualities, accomplishments, successes, and abilities. Second, two protective forms of perfectionistic self-presentation involve concealing or excluding perceived negative aspects of the self

from others. One facet, known as *nondisplay of imperfection*, involves individuals' extreme concern over behaviorally demonstrating their imperfections and is expressed in avoidance of situations where perceived flaws and shortcomings might be obvious or in elaborate attempts to hide mistakes from others. The other facet, known as *nondisclosure of imperfection*, involves the need not to verbally communicate any imperfection and is manifest in evasion or avoidance of verbal admissions of perceived inadequacies and mistakes. Hewitt and colleagues (2003) suggested that PSP may be relevant in poor adjustment and, especially, in interpersonal relationship difficulties. PSP facets have been shown to relate to various indices of psychopathology including anxiety, depression, and eating disorder symptom severity even after controlling for trait perfectionism and other personality traits (Hewitt et al., 2003; McGee, Hewitt, Sherry, Parkin, & Flett, 2005).

One way of conceptualizing perfectionistic self-presentation is that it can be construed as a specific form or component of a neurotic character style. The link between neurotic tendencies and its relevance in interpersonal contexts in general and the therapy context in particular was first discussed by Karen Horney (see Horney, 1950). As part of her discussion of psychoanalytic treatment for neurotic disturbances, Horney described patients who adopted an expansive solution in the form of striving for perfection and attempting to behave in a manner that conveys this perfection to others. Horney suggested that this approach is not conducive to good treatment outcomes for various reasons. Specifically, these individuals are unwilling to express negative emotions and explore and express conflicts because these emotions and conflicts are not in keeping with the ideal-self of the perfectionist and the way they "should" appear to others. She also discussed this issue within the context of those with the expansive solution displaying a false self in treatment and the need to get beyond the defensiveness and conflict avoidance and restoring a focus on the real self. Horney's observations about neurotic tendencies undermining treatment

progress have received general support in the literature (Weissman, Prusoff, & Klerman (1978).

#### CLINICAL IMPLICATIONS OF PERFECTIONISTIC SELF PRESENTATION

Although PSP facets are associated with various types of psychopathology, it has been suggested that PSP may have an indirect impact on psychopathology by influencing inappropriate coping with extant stressors, problems, and shortfalls (Hewitt & Flett, 2002). Persons high in PSP may generate and perpetuate stressful experiences because of their tendency to engage in maladaptive coping responses when faced with stressors and difficulties. Such maladaptive coping may be especially evident in clinical situations whereby the PSP facets influence the entire process of acknowledging one's own distress, seeking appropriate help for that distress, and benefiting from support and professional interventions. We have asserted that the drive to present oneself as perfect may have important indirect links with psychopathology by influencing help-seeking and the ability to engage in and to benefit from psychotherapy (Hewitt & Flett, 2002; Hewitt et al., 2003; Hewitt et al. 2007). When perfectionists have difficulty in disclosing or displaying imperfections, such as their distress, personal failings, shortcomings, or inability to cope, they are less likely to engage adaptively in treatment. It can be argued that benefiting from clinical evaluation and treatment hinges on the individual's ability to disclose personal information in an honest and forthright manner in order to establish a therapeutic alliance and to ensure that the appropriate problem areas are tackled. For instance, Kahn, Achter, and Shambaugh (2001) found that among patients undergoing psychotherapy, the tendency to disclose personally distressing information was associated with lower levels of stress and symptomatology as rated by patients at termination. Disclosure has also been identified as a key element in the therapeutic alliance

(Norcross, 2002). To the extent that the self-presentational facets of perfectionism are inimical to the therapeutic experience, such perfectionistic individuals would be expected to do poorly in psychotherapy.

Although there are no specific tests of whether PSP facets are associated with negative outcomes in actual clinical contexts, there is some support that PSP does have an impact on the clinical process. For example, we have shown that PSP is broadly associated with difficulties in seeking professional help for individuals' own psychological difficulties (Hewitt et al., 2007). In a study of young adults (94 men and 90 women), it was found that individuals high in PSP had more negative attitudes toward seeking professional help for their own psychological problems than those low in PSP. For example, all three PSP facets were associated with decreased recognition of need for professional help, tolerance of the perceived stigma that might be associated with seeking help, interpersonal openness in interacting with professionals, and confidence in the professionals' ability to be of help. Moreover, in a subsample of 59 individuals who had sought help from a mental health professional in the past, all three facets of PSP were associated with self-ratings of having increased difficulty in seeking treatment and continuing with the treatment until completed. Two facets, perfectionistic self-promotion and nondisplay of imperfection, were associated with decreased comfort in initially seeking professional help and one facet, nondisplay of imperfection, was associated with lower self-ratings of benefiting from the treatment (Hewitt et al., 2006). Overall, these findings suggest that the facets of PSP may be important in negative judgments about seeking professional help and may play a critical role in the therapy process from experiencing distress to seeking help and to benefiting from therapy (Hewitt & Flett, 2002; Hewitt et al., 2006). They also suggest that individuals high in the self-concealing facets may eventually seek treatment but they will do so with greater discomfort, higher levels distress, and more negative expectancies and evaluations.

In this study we examined the ways in

which perfectionism, particularly concerns over revealing imperfections, may impact the experience of a clinical interview. We chose three major domains to assess the impact of PSP on the therapeutic process. We examined the cognitive, affective, and physiological arousal experience of individuals completing a clinical interview necessitating self-disclosure. These three domains were chosen because each is hypothesized to be affected by PSP and each domain can have significant implications for treatment process and outcome. For instance, evidence suggests that a patient's cognitive appraisal of the therapist is related to that patient's rating of the therapeutic alliance (Hersoug, Hoglend, Monsen, & Havik, 2001), which, in turn, is related to therapeutic outcomes (Samstag, Batchelder, Muran, Safran, & Winston, 1998). Similarly, both the affective and the physiological arousal experienced by a patient may also reveal the extent to which the clinical experience is negative, distressing, and, potentially, something to be avoided. For instance, stressful events often prompt negative emotions (e.g., Stone, Neale, & Shiffman, 1993) and negative emotions are associated with greater physiological arousal (Herrald & Tomaka, 2002). In particular, interpersonal situations involving significant evaluation and perceptions of negative feedback prompt elevations in heart rate (Heffner, Ginsburg, & Hartley, 2002; Herrald & Tomaka, 2002). Overall, examining cognitive, affective, and physiological responses may provide valuable insight into the experience of a clinical situation and the therapeutic process. Specific expectations regarding PSP and three domains are discussed further below.

*Cognition.* Individuals high on PSP are likely to appraise interpersonal situations (Hewitt et al., 2003), and thus the therapeutic environment, as excessively threatening. The self-protective nature of PSP is consistent with an over concern with the expectations of others and, simultaneously, an awareness of shortcomings that may prompt the individual to feel that s/he will fail to meet those expectations. Expressed in terms of cognitive apprais-

als, individuals high in PSP are likely to hold perceptions of threat regarding interpersonal interactions due to the view that the other expects more than the self can give. Although no research has directly assessed the level of threat perceived by perfectionistic self-presenters, correlations between the nondisplay and nondisclosure dimensions of PSP and socially prescribed perfectionism supports the view that individuals high in these dimensions see others as holding excessive and unrealistic expectations for them and as being critical of their shortcomings (Hewitt et al., 2003). Moreover, PSP is associated with social anxiety (Hewitt et al., 2003), which has been found to predict negative appraisals of interpersonal situations (Alden, Bieling, & Wallace, 1994; Wallace & Alden, 1997).

Perhaps most important is the role of PSP in negative cognitive appraisals at the conclusion of the interview. Perfectionistic self-presenters desire to make perfect self-presentations and they monitor their own behavior in interpersonal situations, yet they clearly doubt their ability to create desired impressions (Hewitt et al., 2003). This is likely to translate into the belief that the clinician is able to "see" their imperfections and thus, holds negative views of the person. This is congruent with research suggesting that socially anxious individuals who believe they do not handle social interactions well report they are less liked by interaction partners compared to those who are confident in social interactions (Alden, Teschuk, & Tee, 1992). Moreover, the perception of not being liked may be accurate: individuals who cognitively appraise situations as interpersonally threatening and then act in a self-protective manner elicit negative reactions from others (Alden & Bieling, 1998). Patients' appraisals of their own performance and of the interviewer's expectations and evaluations before and after the interview were used to assess the relationship between PSP and cognitive appraisals.

*Affect.* PSP facets may have a marked effect on the experience of anxiety in interpersonal contexts. Schlenker and Leary (1982)

proposed that people will become anxious in situations where they are motivated to make a desired impression but feel they will be unsuccessful in doing so. Thus, perfectionistic self-presenters who doubt their ability to change their behavior in social situations and who fear social disapproval (Hewitt et al., 2003) are likely to experience anxiety in social interactions. Furthermore, findings suggest that a protective style of self-presentation during social interaction is related to social anxiety (Meleshko & Alden, 1993). Consistent with this assertion, both nondisplay and nondisclosure of imperfection have been linked with social interaction anxiety and social performance anxiety (Hewitt et al., 2003).

Moreover, individuals who are concerned with their presentation and feel they fail to meet the expectations of others, are likely to experience negative affect in such situations (Schlenker & Leary, 1982). For example, individuals high in social anxiety, who were concerned about their social performance and evaluation, reported more negative affect following social interactions involving small talk compared to individuals low in social anxiety (Kashdan & Roberts, 2006). Thus, individuals high in PSP, who are concerned with their performance in social situations, may also be prone to experiencing negative affect as a result of social interactions, especially in a clinical situation, in which the individual must disclose personal and potentially negative information about the self. To assess the affective responses, self-reports of negative affectivity before and after the interview were administered.

*Arousal.* PSP may also influence the physiological arousal experienced during a clinical interview requiring disclosure. Arousal is often studied in the hope that it "... can tell us something about motivation and emotion that is not necessarily obvious from overt behavior" (Fowles, 1980, p. 93). For example, anxiety is associated with increases in autonomic system arousal measured by cardiovascular activity (Linden, 1991). Broadly, interpersonal interactions can modulate phys-

iological systems (e.g., cardiovascular system; McGuire & Kiecolt-Glaser, 2000). Specifically, individuals demonstrate physiological changes when disclosing personal problems (Fritz, Nagurney, & Helgeson, 2003) and when social esteem or status is threatened (Dickerson, Gruenewald, & Kemeny, 2004). Thus, disclosing or displaying imperfections should induce excessive autonomic arousal in those who are driven to conceal those imperfections. Furthermore, evidence suggests that personality factors may influence the autonomic arousal experienced when disclosing personal information (Brouwers, Sorrentino, Roney, & Hanna, 2004). Perfectionistic self-presenters may be especially likely to experience excessive arousal in situations where they are required to expose their imperfections, such as in a clinical situation. Physiological arousal was assessed by monitoring heart rate throughout the interview.

### Objectives and Hypotheses

The overarching goal of this study was to examine the influence of PSP on the cognitive, affective, and physiological experience of a clinical interview requiring self-disclosure. Participants, recruited from outpatient mental health settings, completed measures of perfectionism and negative affect and cognitions. They were asked to provide information on two situations in their life in which they did not cope well. These events formed the backbone of the interview with a clinician. Having an individual talk about personal life events is a common methodology in clinical research (e.g., Fletcher & Fitness, 1990) and is high in external validity.

We predicted that the concealing dimensions of PSP may be especially relevant to a clinical interview, given evidence that concealment is related to therapeutic processes and to the experience of distress (e.g., Hewitt et al., 2007; Kawamura & Frost, 2004). Past research suggests that nondisplay of imperfection is a stronger predictor of psychopathology than nondisclosure of imperfection (Hewitt et al., 2003). However,

given that the nature of an interview emphasizes disclosure about personal shortcomings, nondisclosure might be expected to be particularly relevant. Thus, it was expected that nondisplay would be significantly related to measures of emotional distress whereas nondisclosure would be significantly related to measures of the interview situation.

An additional goal of the project was to determine whether PSP facets predict the outcomes beyond trait perfectionism and beyond symptoms of social anxiety and depression. This would provide a stringent test of the power of the PSP facets to predict negative experiences of a clinical situation and would suggest that the PSP facets are unique and important predictors of clinical process beyond other significant predictors of psychotherapeutic process. This would support the notion that perfectionistic self-presentation is a powerful, unique, and independent predictor of process-related variables. Although specific hypotheses were not advanced for the trait dimensions of perfectionism, generally we expected that self-oriented and socially prescribed perfectionism would predict negative affect based on past research. No specific hypotheses were made for other-oriented perfectionism.

Finally, we examined whether the interaction style of those high in PSP was aversive to others by obtaining ratings from the interviewer as to the likeability of the participant and the willingness of the interviewer to take on the participant as a patient. We predicted that those higher in PSP would be rated as less likeable and desirable for patients than those lower in PSP.

## METHOD

### Participants

Participants were selected to reflect the heterogeneous diagnostic group typically seen in a clinical setting. Although diagnostic status was not determined by structured interviews, participants presented with a range of difficulties: 61% percent of participants de-

scribed depression as their primary concern, 10% adjustment issues or situational stress, 11% anxiety, 10% relationship issues, and 8% eating disorders. Participants with a psychotic disorder were excluded. Of the 99 patients who agreed to participate in this study, seven were excluded due to equipment failure, one due to inebriation, and one due to heavy sedation with anxiolytics. Excluded participants did not differ significantly from the final group in demographics or perfectionism. Of the remaining 90 participants (45 women and 45 men), 57% were recruited from the outpatient clinic in a university psychology department, 34% from the outpatient affective disorders unit in a local teaching hospital, and 9% from the outpatient psychiatry unit in a local teaching hospital. Participants from different sites did not differ in terms of age, education, depression, or interaction anxiety. Participants ranged in age from 19 to 64 years ( $M = 36.20, SD = 11.06$ ), with an average education of 15.18 years ( $SD = 3.03$ ). All participants were of European or North American origin. Sixty-four percent were currently employed. Eighty-four percent of participants reported that they had previous experience with a mental health professional. Our sample closely resembled other volunteer heterogeneous clinical samples in levels of depression (e.g., Beck & Beck, 1972; Steer, Beck & Brown, 1989), interaction anxiety (Leary & Kowalski, 1993), and trait and self-presentational perfectionism (e.g., Hewitt & Flett, 1991b; Hewitt et al., 2003). This latter finding is especially relevant, as it implies that volunteers for this study were not especially low in self-presentational concerns, as might be expected of those who volunteer for an interview study.

### Materials

The following subscales functioned as predictor variables:

*Perfectionistic Self-Presentation.* The Perfectionistic Self-Presentation Scale (PSPS; Hewitt et al., 2003) is a 27-item measure comprised of three subscales: perfectionistic

self-promotion (10-items; sample item: "I try always to present a picture of perfection"), nondisplay of imperfection (10-items; sample item: "It would be awful if I made a fool of myself in front of others"), and nondisclosure of imperfection (7-items, sample item: "I try to keep my faults to myself"). Participants rate items on a 7-point Likert scale; higher scores indicate higher levels of perfectionistic self-presentation. Coefficients alpha for PSPS subscales range from .75 to .90 (e.g., Habke, Hewitt, & Flett 1999). Several studies involving clinical and university samples have supported the multidimensionality, internal reliability, test-retest reliability, predictive validity, convergent validity, incremental validity, and discriminant validity of the PSPS (e.g., Hewitt et al., 2003). In the current sample, the subscales' intercorrelations ranged between .62 and .68.

The following measures operated as control variables:

*Trait Perfectionism.* The 15-item short form of the original 45-item Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991b) was used. This scale measures three subscales: self-oriented, other-oriented, and socially prescribed perfectionism. Participants rate the items on a 7-point Likert scale; higher scores signify higher levels of trait perfectionism dimensions. Note that the use of an abbreviated version of the MPS in this study is in keeping with results of a study by Cox, Enns, and Clara (2002) which suggested that the scale could be shortened without sacrificing the demonstrated the very strong psychometric characteristics of the subscales (e.g., Enns & Cox, 2002; Hewitt & Flett, 1991b). The short form has been found to be strongly correlated with the long form (e.g., .91 for self-oriented, .81 for other-oriented, and .90 for socially prescribed perfectionism; Hewitt, 2006). In the current sample, the subscales' intercorrelations ranged between .46 and .47.

*Depression.* A 13-item short form of the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) measured the severity of symptoms of depression. Higher scores indicate increased levels of depression. Coefficients alpha for the BDI usually range from .80 to .95 (e.g., Beck, Steer, & Garbin, 1988). Numerous studies have demonstrated the psychometric solidity of the BDI (e.g., Beck et al., 1988). The short form has validity, reliability, and predictiveness comparable to the full scale (e.g., Beck & Beck, 1972).

*Interaction Anxiety.* The Interaction Anxiousness Scale (IAS; Leary, 1983) is a 15-item measure of the propensity to experience anxiety in a social situation. The IAS was chosen for this study because it excludes measures of inhibited or reticent behaviors that overlap with self-presentation. Higher scores indicate increased levels of interaction anxiety. Coefficients alpha for the IAS typically range between .85 and .95 (e.g., Leary & Kowalski, 1993). Research involving different populations has supported the validity, reliability, and predictiveness of the IAS (e.g., Leary & Kowalski, 1993).

The following measures functioned as outcome variables:

*Cognitive Appraisals.* The Behavioral Ratings of Social Competence scale (BRSC; Lewinsohn, Mischel, Chaplin, & Barton, 1980) is a 17-item scale that assesses specific social behaviors based on self- and other-ratings (Gotlib & Meltzer, 1987; Lewinsohn et al., 1980). Internal reliabilities for the scale range from .88 to .97 (e.g., Gotlib & Meltzer, 1987; Lewinsohn et al., 1980). Participants rate, on a seven-point scale, how characteristic each item is of their actual performance or is likely to be of their upcoming performance.<sup>2</sup> Items were: open, warm, friendly, assertive, attractive, confident, humorous, reasonable,

2. In keeping with Ducharme and Bachelor (1993), we used a slightly modified version of the scale to assess participants' predictions of their behavior in an upcoming interaction. The anchors for this scale range from *not at all characteristic* to *extremely characteristic*. To clarify the meaning of the upper end of the scale, participants were instructed as follows: "by extremely, we do not mean an excessive, inappropriate, or exaggerated level, but rather one that fits perfectly with the situation."

speaks fluently, socially skillful, and communicates clearly. Six items (e.g., popular, has a positive outlook on life) were excluded because they were inappropriate for a structured clinical interview (where what is discussed is negative and constrained and low ratings may represent lack of information on that attribute rather than low competence in that area). Ratings were combined into a composite score.

Following Alden (e.g., Alden et al., 1994; Wallace & Alden, 1991), participants completed the 11 scale items twice (pre- and post-interview). Prior to the interview participants rated the 11 items regarding (a) their belief of what the interviewer was expecting from them (i.e., perceived interviewer expectation) and (b) their own expectation for their performance (i.e., anticipated performance). Pre-interview cognitive appraisal ratings also served to create a measure of interpersonal threat, which was the discrepancy between perceived interviewer expectations and anticipated performance.<sup>3</sup> Following the interview, the 11 scale items were completed in response to two new prompts regarding (a) participants' perceptions of how satisfied the interviewer was with their performance (i.e., perceived interviewer satisfaction) and (b) participants' satisfaction with their performance (i.e., perceived performance). Following the procedure of Alden and colleagues (1992), participants were also asked to make a global rating of how likable the interviewer found them (on a seven-point scale from *not at all* to *extremely*) and of how likable they believe the interviewer would usually find others, on a similar rating scale.

*Negative Affect.* Participants were asked to rate their mood before and after the interview on the negative affect subscale of the

Positive Affectivity Negative Affectivity Scale (PANAS; Watson, Clark & Tellegen, 1988). Prior to the interview participants were asked to rate the extent to which 10 negative mood adjectives were descriptive of how they were feeling. Post-interview, participants used these same 10 mood adjectives to rate how they felt over the course of the interview. Items were averaged into a total score. Higher scores indicate higher levels of negative mood. Studies using student, community, and psychiatric samples have demonstrated support for the internal reliability, factor structure, predictive validity, convergent validity, and discriminant validity of the PANAS (Watson et al., 1988; Watson & Clark, 1994). For example, internal reliabilities are typically high (i.e., above .83).

*Physiological Monitoring.* The Davicon MEDAC System/3 provided continuous monitoring of heart rate (Neurodyne, 1994). This equipment uses a pulse plethysmograph attached to the finger. Participants were informed that the instrument could not function as a lie detector, but rather measured levels of relaxation.

Scores on heart rate were calculated for each time period as follows: the last minute of the relaxation phase (pre-interview), the first minute of the discussion of the reason for the referral, the initial minute following the interviewer's request for the disclosure of each problem, and the final minute of relaxation (recovery) at the end of the interview. One-minute blocks were used so as to: (1) minimize the effect of transient changes, thereby providing a more reliable estimate of arousal; (2) minimize habituation of heart rate, which may occur over longer periods of time (Frankish & Linden, 1991) and; (3) ac-

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3. Discrepancy scores have been used to assess differences between self-efficacy and interpersonal standards (Kanfer & Zeiss, 1983) and differences between perceived demands and ability to meet those demands (Tomaka, Blascovich, Kelsey, & Leitten, 1993). Debate continues over the appropriate way to analyze discrepancy scores (e.g., Maassen, 2000). In particular, statisticians have raised concerns regarding the reliability of discrepancy scores (e.g., Cronbach & Furby, 1970). However, increasingly there is evidence that discrepancy scores can be reliable (e.g., Llabre, Spitzer, Saab, Ironson, & Schneiderman, 1991; Williams & Zimmerman, 1996) and may be the preferable strategy in certain cases (e.g., Cribbie & Jamieson, 2000, 2004). In particular, the use of change scores is the advisable strategy in non-experimental designs (Cribbie & Jamieson, 2000) such as this study.

count for the variability in the length of responses across participants (all participants spoke for at least one minute in each section, although many participants spoke for longer). In addition to considering average levels of heart rate at each time point, the extent to which heart rate changed over time was also considered. We focused on the arousal, or difference in heart rate, from pre-interview relaxation to the discussion of the first mistake,<sup>4</sup> as this was the first and likely the most significant threat to an image of perfection during the interview.

*Interviewer ratings.* Upon completion of the interview, interviewers were asked how much they liked the participant and how willing they would be to have the participant as a patient on a seven-point Likert scale (1 = “not at all” and 7 = “extremely”).

### Procedure

Residents of the greater Vancouver area who were referred to each of three sites passed through the normal intake procedure at each location and were approached regarding consent to contact. At the time of scheduling, participants were asked to refrain from taking any medication that they do not take on a regular basis (i.e., “as needed” anxiolytics, antihistamines, etc.) within three hours of the interview, from drinking coffee, tea, or cola, within two hours of the interview, and from smoking within 30 minutes of the interview. Following a description of the research, written consent, and payment of \$10 for their participation, participants completed the measures as detailed above. Participation was voluntary and confidential and the study was approved by the Research Ethics Board at the University of British Columbia.

Following completion of the self-report measures, the Davicon leads were applied to the non-dominant hand with the pulse plethysmograph on the end and side of either the first or second finger (depending on the quality of the signal) consistent with the equipment manufacturer’s suggestions and that of other researchers (Neurodyne, 1994; Venables & Christie, 1980). Participants were asked to follow a brief relaxation tape for five minutes while alone in the room constituting the “Pre-Interview Relaxation” phase.

One of three trained female interviewers, who were blind to the hypotheses and to the participant’s scores on all measures, conducted the interview. Interviewers were post-internship doctoral-level clinical psychology graduate students. These are clinicians who have had at least 5 years of clinical training in clinical interviews, assessment, and psychotherapy. They employed an open but neutral interviewing style, meant to facilitate self-disclosure and to simulate a stance typical of most mental health professionals. The participants were informed that the interviewer was a doctoral student with a great deal of clinical experience. Consistency in style between the interviewers was established using taped practice interviews. Ratings of interviewers in regard to warmth were made by trained coders to assure consistency across interviewers. These ratings suggested that, despite training, interviewers differed on warmth,  $F(2, 86) = 8.65, p < .001$ ; these differences focused on one interviewer who was more warm, on average, than the other two. However, while this difference was statistically significant, this interviewer differed by less than half a rating point ( $M = 5.46$  versus  $M = 5.03$  and  $5.08$ ) from the other two interviewers. When analyses were repeated controlling for interviewer warmth, the results were unchanged.

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4. The use of change scores is also an issue in calculations of psychophysiological reaction (e.g., Jamieson, 1994; Siddle, Turpin, Spinks, & Stephenson, 1980). Previous studies have used both ANCOVA analyses (e.g., Buntrock & Reddy, 1992; Kaiser, Hinton, Krohne, Stewart, & Burton, 1995) and the discrepancy between baseline measures and measures during stress (e.g., Kelsey et al., 1999; Weinberger & Davidson, 1994) as an assessment of reaction. The use of discrepancy scores in this study is consistent with recommendations concerning the appropriate use of change scores for non-experimental studies (e.g., Cribbie & Jamieson, 2000).

TABLE 1. Univariate Statistics

	<i>M</i>	<i>SD</i>	$\alpha$
Perfectionism			
Perfectionistic Self-Promotion	43.41	12.01	.87
Nondisclosure Imperfection	23.33	8.36	.82
Nondisplay Imperfection	45.05	13.05	.91
Self-Oriented	21.84	7.61	.88
Other-Oriented	20.68	6.32	.84
Socially Prescribed	20.51	6.59	.80
Emotional Distress			
Interaction Anxiety	49.19	12.41	.92
Depression	12.67	7.55	.90
Cognitions			
Anticipated Performance	60.67	10.51	.88
Perceived Interv. Expect.	57.84	11.57	.90
Perceived Performance	54.65	11.23	.89
Perceived Interv. Satisf.	54.18	11.08	.91
Interviewer Liked Me	3.95	1.08	—
Interviewer Likes Most People	4.23	0.91	—
Negative Affect			
Pre-Interview	1.98	0.83	.89
Post-Interview	2.09	0.78	.88
Heart Rate (Beats/Minute)			
Pre-Interview Relaxation	72.22	10.94	—
Reason Here	74.18	11.72	—
First Situation	74.10	11.28	—
Second Situation	72.95	10.63	—
Recovery	69.89	10.35	—

*Note.* Perceived Interv. Expect. = perceived interviewer expectations; Perceived Interv. Satisf. = perceived interviewer satisfaction. Reason Here refers to the discussion of the reason for seeking treatment. First Situation refers to the discussion of the first difficult situation. Second Situation refers to the discussion of the second difficult situation.

A structured interview, consisting of three questions, was used as a standardized stimulus. First, participants were asked about the reason for seeking treatment at this time, forming the “Reason Here” phase of the interview. This was included to provide an opportunity for participants to acclimatize to the setting, the interviewer, and the task, as well as to establish the interview as similar to other initial contacts with mental health professionals. Participants were then asked to think about situations in their lives during which they felt they had not coped well—that is, situations in which they had made a mistake or which were made worse by the way they had handled them. They were requested to think about the most serious situation and briefly describe it. Participants were then asked about their perceptions of their contribution to the development of the situation and to its conclusion. These questions formed the “First Situation” phase of the interview. The same set of questions was applied to a second difficult situation, forming the “Second Situation” phase. Two situations were included to maxi-

mize the likelihood of getting at least one that was quite serious and to give additional scope for self-presentation. The clinical interview was videotaped, although the camera was angled away from the participant.

Following the interview, the interviewer thanked the participant and asked him/her to relax for a few minutes; the participant was alone for a minimum of two minutes. This constituted the “Recovery” phase. The primary researcher returned and administered the post-interview questionnaire package. Following completion of these questionnaires, participants were reassured that withholding difficult situations is common and understandable, and they were asked to indicate if the situations they described were indeed the most difficult ones they could remember. Twelve participants indicated that they had held back; these participants did not differ significantly in trait and self-presentational perfectionism from those who did not withhold any difficult situation. Participants also were asked if they felt the interview was similar to therapy. While participants varied

considerably in their responses, no one identified the focus on past mistakes as unusual. Finally, participants were debriefed and dismissed.

## RESULTS

### Univariate Statistics

The means, standard deviations, and coefficients alpha for all measures are presented in Table 1. The means and standard deviations for the measures are consistent with other work using clinical samples suggesting that this sample is similar to other heterogeneous clinical samples, used in perfectionism research (e.g., Hewitt & Flett, 1991a). The values of the coefficients alpha for the scales indicate high internal consistency for all measures.

### Bivariate Statistics

The zero-order correlations for the variables are displayed in Table 2, where it can be seen that the PSP facets were not associated with any of the demographic variables, with the exception of a negative correlation with education level for all three facets. Moreover, all three PSP facets were positively correlated with trait perfectionism, interaction anxiety, and depression, also in a manner consistent with prior research (Hewitt et al., 2003). The correlations for trait perfectionism were consistent with past research (Hewitt & Flett, 1991a). Socially prescribed perfectionism was associated with less previous experience in treatment and depression. Self oriented perfectionism and socially prescribed perfectionism were correlated with depression and interaction anxiety, congruent with past research (Hewitt & Flett, 1991a).

*Cognition.* Bivariate correlations between PSP, trait perfectionism, and cognitive variables are displayed in the upper panel of Table 3. In examining the pre-interview cognitive variables, only one significant relationship emerged: The nondisclosure of

imperfection facet was negatively related to personal judgments of one's own anticipated performance indicating that those with high levels of nondisclosure of imperfection rated their anticipated performance during the interview as more negative. None of the PSP facets or trait perfectionism dimensions were significantly related to perceived interviewer expectation; however, interpersonal threat (i.e., the discrepancy between perceived interviewer expectations and ratings of one's own anticipated performance) was significantly and positively correlated with the nondisclosure PSP facet, suggesting that those high on the nondisclosure facet believed that the interviewer would expect more from the patient than the patient believed he or she could provide.

With respect to the post-interview ratings, all three PSP facets were significantly and negatively correlated with patients' perceived performance and with perceived interviewer satisfaction. As well, both self-oriented and socially prescribed perfectionism were correlated with the post-interview ratings. The findings suggest that both self-presentational and trait aspects of perfectionistic behavior are associated with more negative judgments of one's performance and ratings of the clinician's dissatisfaction with one's performance. To further elucidate the relationship between perceived interviewer satisfaction and PSP, we calculated the discrepancy between what the participant perceived the interviewer expected prior to the interview and how the participant believed s/he performed during the interview. This discrepancy score was significantly and positively correlated with perfectionistic self-promotion ( $r = .27, p < .05$ ) and nondisclosure of imperfection ( $r = .40, p < .001$ ) but was not significantly related to nondisplay of imperfection ( $r = .15, p > .05$ ). Overall, these findings indicate that although only nondisclosure of imperfection was associated with negative expectations and perceived interpersonal threat prior to the interview, all three PSP facets and two trait perfectionism dimensions were associated with post interview dissatisfaction.

With respect to ratings of how liked the

TABLE 2. Correlations Between Perfectionistic Self-Presentation, Trait Perfectionism, Demographics and Control Variables

	Perfectionistic Self Presentation			Trait Perfectionism		
	Self-Promotion	Nondisclosure	Nondisplay	Self-Oriented	Other Oriented	Socially Prescribed
<b>Demographics</b>						
Age	-.07	-.07	.02	-.14	-.01	-.09
Gender	.06	-.07	-.14	-.12	-.11	.18
Education	-.21*	-.22*	-.24*	-.04	.01	-.09
Previous Experience	-.07	.02	.08	-.08	.08	-.24*
<b>Control Variables</b>						
Self-Oriented	.67***	.42***	.41***	—	—	—
Other Oriented	.44***	.31**	.37***	.54***	—	—
Socially Prescribed	.71***	.49***	.57***	.68***	.49***	—
Interaction Anxiety	.33**	.40***	.51***	.27**	.11	.20
Depression	.35***	.40***	.41***	.33***	.13	.32**

Note. Previous experience = previous experience with a mental health professional (0 = no, 1 = yes). Gender: male = 1, female = 2. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

participant felt by the interviewer and how the participant felt the interviewer would like most other participants, there were no significant correlations with the PSP facets. In order to determine if the PSP facets were associated with ratings of the interviewer liking others more than liking the participant him or herself, we calculated the difference between how liked the participant felt by the interviewer and how s/he felt the interviewer would like most participants. This difference score was significantly correlated with both nondisclosure and nondisplay of imperfection ( $r = -.30$  and  $-.31$ ,  $p < .01$ , respectively), suggesting that those high in the concealing facets of perfectionistic self presentation believe that the interviewer liked other participants more than the interviewer liked the participant him or herself. Self-promotion was also related but did not meet significance ( $r = -.20$ ,  $p = .06$ ). In terms of the trait dimensions, the only significant finding was that other oriented perfectionism was significantly correlated with perceptions that the clinician would like most participants, perhaps suggesting that the clinician is viewed in an overly idealistic fashion. Thus, although only other oriented perfectionism was associated with ratings of the interviewer's liking of others or of the respondent, the results indicate that the concealing PSP dimensions of nondisplay and nondisclosure were associated with perceptions that the interviewer would like others more than the interviewer liked the respondent.

*Affect.* In terms of negative affectivity (see middle panel of Table 3), ratings of pre- and post-interview negative affect were moderately and positively correlated with all PSP facets and self-oriented and socially prescribed trait perfectionism. In order to determine whether the PSP facets were associated with increases in negative mood over the interview, when pre-interview mood was controlled, post-interview mood remained significantly correlated with nondisclosure (partial  $r = .22$ ,  $p < .05$ ) but was not significantly related to perfectionistic self-promotion (partial  $r = .11$ ,  $p > .05$ ) or nondisplay of

imperfection (partial  $r = .13$ ,  $p > .05$ ). These findings suggest that although all of the PSP dimensions were related to greater negative mood before and after the interview, over the course of the interview negative mood increased only for those high on the nondisclosure of imperfection facet.

*Physiological Arousal.* The correlations for physiological arousal are reported in the bottom panel of Table 3 where it can be seen that perfectionistic self-promotion was significantly correlated with increased heart rate during the relaxation phase as well as during the first and second discussion of difficult situations. However, self-promotion was not significantly related to increases in the arousal variable (i.e., the discrepancy between heart rate during relaxation and discussion of first difficult situation); rather those high in self-promotion demonstrated an elevated heart rate across phases with the exception of the recovery phase. For instance, the elevation in first situation heart rate for those high in self-promotion was no longer significant when heart rate for the preceding section was controlled (partial  $r = .16$ ,  $p > .05$ ). On the other hand, the nondisclosure of imperfection facet was significantly correlated with heart rate during the discussion of the first difficult situation, second difficult situation, and with the arousal variable. This elevation of heart rate appeared to be maintained through the discussion of the second mistake for those high on nondisclosure, but was reduced by the time of the recovery period. The correlation between nondisclosure and heart rate during the discussion of the first mistake remained significant and substantial when heart rate during this preceding section was controlled (partial  $r = .27$ ,  $p < .05$ ). Self-oriented and socially prescribed perfectionism were significantly related to first situation heart rate. This was maintained during the second situation heart rate for those high in socially prescribed perfectionism. Overall, then although perfectionistic self-promotion and the nondisclosure of imperfection (as well as the two trait dimensions) were associated with elevated heart rate at various points during the

TABLE 3. Correlations Between Perfectionism Dimensions and Cognitive Variables, Affect, and Physiological Arousal

	Perfectionistic Self Presentation			Trait Perfectionism		
	Self-Promotion	Nondisclosure	Nondisplay	Self-Oriented	Other Oriented	Socially Prescribed
<b>Cognitions</b>						
Pre-Interview						
Anticipated Performance	-.19	-.38***	-.20	-.19	.09	-.13
Perceived Interv. Expect.	-.04	-.04	-.16	-.12	.10	-.04
Interpersonal Threat	.14	.31**	.02	.05	.02	.08
<b>Post-Interview</b>						
Perceived Performance	-.35***	-.50***	-.34***	-.35***	-.07	-.35***
Perceived Interv. Satisf.	-.27**	-.40***	-.30**	-.22*	.02	-.28**
Interviewer Liked Me	-.09	-.17	-.11	-.10	.06	-.18
Interviewer Likes Most People	.07	.10	.15	.03	.29**	.04
<b>Negative Affect</b>						
Pre-Interview	.46***	.33***	.41***	.42***	.19	.39***
Post-Interview	.33***	.35***	.32**	.36***	.12	.39***
<b>Physiological Arousal</b>						
Pre-interview Relaxation Heart Rate	.21*	.19	.13	.16	.07	.21
Reason Here Heart Rate	.20	.21	.10	.16	.01	.18
First Situation Heart Rate	.26*	.30**	.17	.22*	.07	.23*
Second Situation Heart Rate	.24*	.26*	.18	.19	.12	.23*
Recovery Heart Rate	.11	.15	.15	.07	.07	.07
Arousal			.12		.31**	

Note. Perceived Interv. Expect. = Perceived Interviewer Expectation, Perceived Interv. Satisf. = Perceived Interviewer Satisfaction, Interpersonal Threat = the discrepancy between perceived interviewer expectations and anticipated performance. Arousal = the discrepancy between heart rate during relaxation and heart rate when discussing the first difficult situation. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

interview, it was nondisclosure of imperfection that appeared to be related to increases in heart rate over the interview as evidenced by the significant association with arousal. This suggests that individuals with elevated levels of nondisclosure found the clinical interview particularly distressing.

*Interviewer Ratings.* After the interview, interviewers were asked how much they liked the participant and how willing they would be to have the participant as a patient. Controlling for the degree of distress (i.e., interaction anxiety and depression), the extent the interviewer liked the participant was significantly negatively associated with self-promotion ( $r = -.26, p < .05$ ) and nondisclosure ( $r = -.26, p < .05$ ) and demonstrated a trend significance for nondisplay ( $r = -.19, p = .08$ ). Interviewers' willingness to have the participant as a patient was significantly negatively related to all three PSP dimensions ( $r = -.22, p < .05$  for self-promotion,  $r = -.27, p < .05$  for nondisclosure, and  $r = -.24, p < .05$  for nondisplay). This indicates that those high in PSP dimensions were viewed less favorably by the interviewers above and beyond levels of distress.

### Multivariate Statistics

In order to determine whether particular facets of PSP were uniquely predictive of the outcomes and were not associated with outcomes due simply to overlap with other variables, hierarchical regressions were used to quantify the unique variance accounted for by each set of predictors.<sup>5</sup> Two sets of regression analyses were conducted for each out-

come variable. For each set, in step one, a block of four demographic variables (age, education, gender, and previous therapy experience) were entered into the equation. Age and education were included because they were significantly associated with cognitive appraisals and affect in this study. Gender and previous therapy experience were included because they have been related to degree of or comfort with self-disclosure in past research (Del Piccolo, Saltini, & Zimmerman, 1998; Derlega, Metts, Petronio, & Margulis, 1993). In order to assess whether the PSP facets predicted responses to a clinical interview beyond trait perfectionism, we also entered the three trait dimensions of perfectionism in step one, and we entered the PSP facets in step two. To examine the ability of the PSP facets to predict responses to the clinical interview beyond depression and social anxiety symptoms, we entered the three PSP facets after the demographics block and the measures of depression and social anxiety were included in step one.<sup>6</sup>

*Cognition.* Table 4 presents the results of hierarchical regressions for the pre-interview cognitive variables (i.e., anticipated performance and interpersonal threat). The PSP block predicted significant variance in anticipated performance beyond the demographics and trait perfectionism block (see upper left part of Table 4), and it was the nondisclosure facet that carried the significant predictive power. In the lower left part of Table 4, the PSP facet block did not significantly predict additional variance above and beyond demographics, interaction anxiety, and depression although it approached significance ( $p = .07$ ).

5. Several steps were taken to control for Type 1 error. First, results were interpreted in terms of a priori hypotheses. Second, regression analyses were protected in two ways (Cohen & Cohen, 1975): (1) multivariate analysis was pursued only if the bivariate correlation was significant; and (2) beta weights for the independent variables were not interpreted unless the block change for both dimensions was significant or the result replicated across other similar variables (e.g., other cognitive appraisals).

6. Given the number of predictors in our second and third multivariate hypotheses, these hypotheses were tested using separate hierarchical regression equations to maximize power based on our sample size (Green, 1991). Multicollinearity diagnostics (i.e., tolerance statistics and variance-inflation factor) were examined in each set of analyses and indicated no problematic multicollinearity.

TABLE 4. Hierarchical Regression Analyses Predicting Pre-Interview Anticipated Performance and Interpersonal Threat by Perfectionistic Self-Presentation Controlling for Demographics, Trait Perfectionism, Anxiety, and Depression ( $N = 90$ ).

	Pre-Interview			Pre-Interview		
	Anticipated Performance			Interpersonal Threat		
	$\beta$	$R^2 \Delta$	$\Delta F$	$\beta$	$R^2 \Delta$	$\Delta F$
Controlling for Demographics and Trait Perfectionism						
Step 1		.16	2.17*		.02	0.26
Demographics						
Self-Oriented	-.28			.00		
Other Oriented	.33*			-.03		
Socially Prescribed	-.13			.09		
Step 2		.10	3.58*		.14	4.21**
Perfectionistic Self-Promotion	.11			.14		
Nondisclosure Imperfection	-.40**			.44**		
Nondisplay Imperfection	-.03			-.33		
Controlling for Demographics, Interaction Anxiety, and Depression						
Step 1		.27	5.03***		.12	1.81
Demographics						
Interaction Anxiety	-.36**			.29*		
Depression	-.24*			.13		
Step 2		.06	2.50		.14	5.03**
Perfectionistic Self-Promotion	.05			.10		
Nondisclosure Imperfection	-.31*			.36**		
Nondisplay Imperfection	.25			-.52**		

Note. Interpersonal Threat refers to the discrepancy between perceived interviewer expectations and anticipated performance. For brevity, tables do not include beta weights for demographics. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

Finally, other-oriented perfectionism was the only trait dimension significantly and uniquely related to anticipated performance and, in this case, it was positively associated with anticipated performance.

With respect to the interpersonal threat variable (see the upper right part of Table 4), the PSP facet block predicted additional variance in both sets of analyses, and in both sets, it was the nondisclosure facet that was uniquely and positively related to interpersonal threat. Interestingly, nondisplay was negatively related to interpersonal threat when demographics, interaction anxiety, and depression were controlled, suggesting that after removing the influence of demographics and symptoms, the drive not to display imperfections was associated with less perceived threat in a clinical situation.

For post-interview perceived performance, PSP predicted significant variance beyond the control variables in both sets of analyses (see Table 5) and, once again, the nondisclosure facet carried the predictive

power. For post-interview perceived interviewer satisfaction, the PSP block significantly predicted additional variance beyond demographics and symptoms. The nondisclosure facet was again the unique predictor in each hierarchical regression analysis.

Overall, across a range of analyses, nondisclosure emerged as a significant and unique predictor of negative expectations and perceptions of threat prior to the interview and of negative evaluations of performance after the interview after controlling for trait perfectionism and depression and anxiety symptoms.

*Affect.* Hierarchical regressions indicated that, after controlling either for demographics and trait perfectionism or for demographics, interaction anxiety, and depression, the PSP block no longer added significant explanatory variance. Only one PSP dimension uniquely predicted negative affect: Self-promotion was positively associated with pre-interview negative mood when in-

TABLE 5. Hierarchical Regression Analyses Predicting Post-Interview Perceived Performance and Perceived Interviewer Satisfaction by Perfectionistic Self-Presentation Controlling for Demographics, Trait Perfectionism, Anxiety, and Depression ( $N = 90$ )

	Post-Interview			Post-Interview		
	Perceived Performance			Perceived Interv. Satisf.		
	$\beta$	$R^2 \Delta$	$\Delta F$	$\beta$	$R^2 \Delta$	$\Delta F$
Controlling for Demographics and Trait Perfectionism						
Step 1		.27	4.41***		.22	3.36**
Demographics						
Self-Oriented	-.24			-.12		
Other Oriented	.27*			.28*		
Socially Prescribed	-.37*			-.36*		
Step 2		.10	4.30**		.07	2.45
Perfectionistic Self-Promotion	.14			.12		
Nondisclosure Imperfection	-.41***			-.30*		
Nondisplay Imperfection	-.03			-.09		
Controlling for Demographics, Interaction Anxiety, and Depression						
Step 1		.32	6.45***		.24	4.44***
Demographics						
Interaction Anxiety	-.34**			-.26*		
Depression	-.29**			-.23*		
Step 2		.08	3.56*		.04	1.55
Perfectionistic Self-Promotion	-.03			.05		
Nondisclosure Imperfection	-.35**			-.26*		
Nondisplay Imperfection	.12			.01		

Note. Perceived Interv. Satisf. = perceived interviewer satisfaction. For brevity, tables do not include beta weights for demographics. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

teraction anxiety and depression were controlled ( $\beta = .30, p < .05$ ). These results indicate that although PSP facets and perfectionism traits influenced negative mood in the interview, no PSP facets were uniquely important after controlling for trait perfectionism and only self-promotion uniquely predicted pre-interview mood after controlling for symptoms.

*Physiological Arousal.* As displayed in Table 6, two hierarchical regressions were run predicting heart rate when discussing the first difficult situation and in predicting arousal (i.e., the discrepancy between heart rate when discussing the first difficult situation and pre-interview relaxation). In predicting heart rate, the block of PSP variables was non-significant for predicting first situation heart rate when demographics and trait perfectionism and when demographics, interaction anxiety, and depression were controlled. In predicting arousal, the PSP block was significant for both sets of hierarchical regressions. Nondisclosure was a unique predictor of arousal across anal-

yses. To visualize the relations between heart rate and nondisclosure, participants were divided into two groups (i.e., high and low nondisclosure) by a median split. Figure 1 shows the link between nondisclosure and heart rate over each point in the interview. Overall, these results suggest that the PSP dimensions and nondisclosure, in particular, are associated with increases in arousal as a result of discussing mistakes during the interview.

## DISCUSSION

This investigation tested several hypotheses regarding the cognitive, affective, and physiological experiences of a therapeutic encounter as it relates to PSP. It sought to examine the impact of a drive to present oneself as perfect by promoting one's own supposed perfection or withhold either verbal or non-verbal evidence of imperfection during a clinical interview. In general, the data suggest those high in a desire to conceal imperfections experienced the clinical interaction as exces-

**TABLE 6. Hierarchical Regression Analyses Predicting Heart Rate for the First Situation and Arousal by Perfectionistic Self-Presentation Controlling for Demographics, Trait Perfectionism, Anxiety, and Depression ( $N = 90$ )**

	First Situation			Arousal		
	$\beta$	$R^2 \Delta$	$\Delta F$	$\beta$	$R^2 \Delta$	$\Delta F$
Controlling for demographics and trait perfectionism						
Step 1		.09	1.18		.05	0.61
Demographics						
Self-Oriented	.15			.24		
Other Oriented	-.13			-.05		
Socially Prescribed	.23			-.09		
Step 2		.04	1.20		.11	3.47*
Perfectionistic Self-Promotion	.07			-.18		
Nondisclosure Imperfection	.25			.42**		
Nondisplay of Imperfection	-.13			.06		
Controlling for demographics, interaction anxiety, and depression						
Step 1		.04	0.56		.04	0.61
Demographics						
Interaction Anxiety	.06			.09		
Depression	.12			.11		
Step 2		.08	2.29		.09	2.72*
Perfectionistic Self-Promotion	.16			-.14		
Nondisclosure Imperfection	.26			.41**		
Nondisplay of Imperfection	-.09			-.03		

Note. Arousal refers to the discrepancy between heart rate when discussing the first difficult situation and relaxation. For brevity, tables do not include beta weights for demographics. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

sively threatening and distressing and influenced the patients' ratings of the therapist as judgmental and negative.

Overall, the current paper presents results consistent with research suggesting that person variables, such as perfectionistic behavior, are important in psychopathology and clinical endeavors. Not only are the perfectionism traits and self-presentational styles related to symptoms and disorders reflecting psychiatric disturbance (Flett & Hewitt, 2002), but they also influence, in a negative way, the clinical process of seeking, maintaining, and benefiting from treatment (Hewitt et al., 2006). The findings of this study suggest that components of the broad perfectionistic personality style, namely facets of perfectionistic self presentation, are associated with a variety of indices that can influence the establishment and maintenance of a therapeutic alliance. For example, personal evaluations and perceived clinician evaluations by the patient, both before and after the interview, permitted an examination of how perfectionistic self-presenters appraise clinical settings. Several findings warrant men-

tion. First, PSP is clearly related to increased feelings of inadequacy in a clinical setting. Those high in PSP came in with lower expectations for their performance and judged their own performance during the interview to be much more negative than patients who were low in this style. Furthermore, these relations held when trait perfectionism was considered suggesting that it is the self presentation components of perfectionism that are most relevant to the judgments of the clinical experience.

Although none of the PSP dimensions were correlated directly with participants' ratings of what the interviewer expected prior to the interview, a different picture emerged when the discrepancy between perceived interviewer expectations and anticipated performance was considered, where a significant positive relationship emerged for the nondisclosure facet of PSP. These findings, taken after the interview, support the notion that those with elevated levels of PSP experience of a clinical interview as a threatening interpersonal experience. Those high on nondisclosure of imperfection made

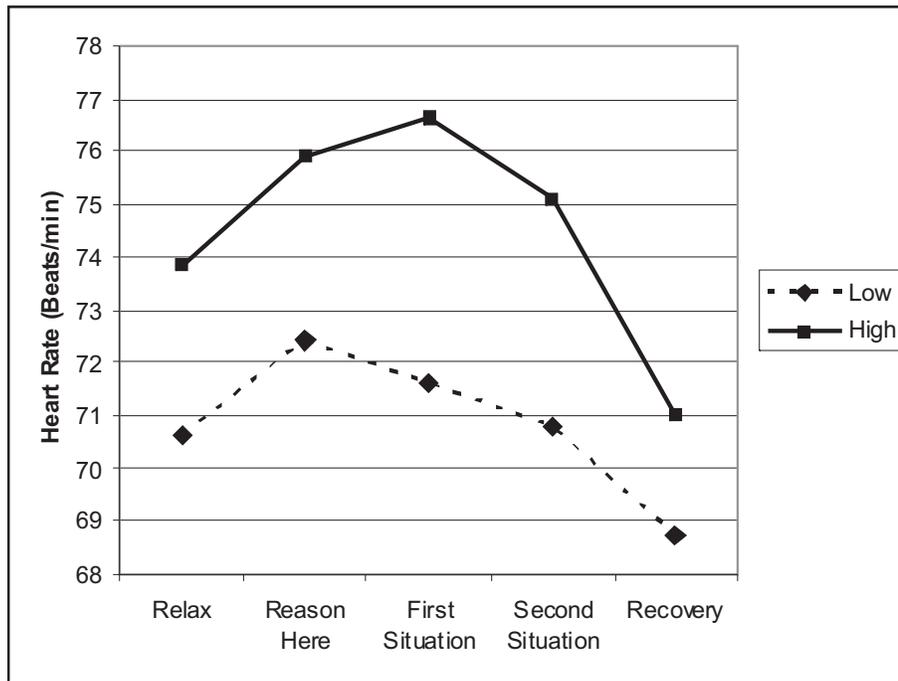


FIGURE 1. Heart Rate During the Interview Based on a Median Split of Nondisclosure of Imperfection

negative social inferences regarding the clinician, feeling that the clinician was less satisfied with their performance and that the clinician liked the patient less than other people. In addition, participants high on nondisclosure of imperfections also felt they performed less well during the interview. Indeed, partial correlations between nondisclosure and ratings of perceived interviewer satisfaction, controlling for perceived performance, were not significant. At the same time, this implies, at the least, that patients high on nondisclosure of imperfections expect the interviewer to share their negative judgment of their performance. Given the tendency of perfectionistic self-presenters to perceive interpersonal threat, nondisclosure of imperfection may represent an attempt to guard against anticipated social rejection in a threatening interpersonal context. However, as discussed later, PSP is likely to elicit, not prevent, social rejection as evidenced by the clinicians' negative judgments about patients with elevated levels of PSP.

Although the main focus of the current study was on perfectionistic self-presenta-

tion, several findings involving the trait perfectionism dimensions deserve to be mentioned. First, trait perfectionism was also related to negative appraisals. Consistent with evidence that other-oriented perfectionism is associated with narcissism (Hewitt & Flett, 1991b; Sherry, Hewitt, Flett, Lee-Baggley, & Hall, 2007), individuals high in this trait had positive expectations for their own performance and rated themselves as performing well after the interview. They also indicated that they believed the interviewer was satisfied with their performance. However, the possibility remains that other-oriented perfectionists would respond poorly to therapists who make them feel defensive and point out some of their shortcomings.

In contrast, those high in socially prescribed perfectionism indicated they believed they performed poorly and that their interviewer was also dissatisfied with their performance. This is consistent with the view that those high in socially prescribed perfectionism view others as critical of them (Hewitt & Flett, 1991b). Additional findings indicated that so-

cially prescribed perfectionism was associated with negative affect both before and after the interview. The apparent maladaptiveness of socially prescribed perfectionism is important to consider in light of evidence suggesting that decreases in socially prescribed perfectionism, as a result of treatment, are linked with functional improvements (Enns et al., 2002).

It is interesting to note that the findings obtained with self-oriented perfectionism were very similar to those obtained with socially prescribed perfectionism. Self-oriented perfectionism was also associated with negative affect both before and after the interview. In addition, self-oriented perfectionism was associated positively and significantly with the indices of depression and social interaction anxiety. Although some authors have suggested that self-oriented perfectionism has an adaptive aspect to it, we found no evidence that self-oriented perfectionism is adaptive in any sense in the therapy context or in other clinical contexts (e.g., Bastiani, Rao, Weltzin, & Kaye, 1995; Cockell et al., 2002; Hewitt & Flett, 1991a; Hewitt et al., 1996).

The current findings suggest a distinction between perfectionism trait dimensions and perfectionistic self-presentational facets, and this is consistent with other work in the literature (Hewitt et al., 2003), that find that PSP predicts unique variance in outcomes after controlling for trait perfectionism dimensions. It may be that the traits and self-presentational components differ in their underpinnings, and that, in part, this accounts for the ability of the PSP facets to predict unique variance. For example, the traits may reflect, generally, a component of obsessive-compulsive personality pathology (Horney, 1950; Shapiro, 2000) whereas the perfectionistic self-presentational facets may be more reflective of narcissistic personality pathology (Masterson, 1981). There does seem to be some support that the perfectionistic self-presentational facets are associated with numerous measures of narcissism (e.g., Hewitt et al., 1991b; Letourneau et al., 2005) and some equivocal support that self-oriented perfectionism is related to obsessive compulsive personality pathology (Sherry, Hewitt, Flett, Lee-Bagley, & Hall, 2007).

One intriguing result that was not hypothesized was the finding that nondisclosure and nondisplay had different relations with perceptions of the interview as interpersonally threatening. Although both dimensions were expected to have similar and positive association with interpersonal threat, the results suggest those high in a desire to avoid a display of imperfection are more likely to believe that they will perform better than the interviewer is expecting when the unique contribution of nondisplay beyond nondisclosure is considered. This result is consistent with a “negative” (Conger, 1974) or “net” (Cohen & Cohen, 1975) suppressor effect, indicating a differential effect for nondisplay when nondisclosure is controlled.

Although the current data do not allow for a firm resolution, there are three possible explanations for this finding. First, it is possible that those high in nondisplay of imperfection do not anticipate negative social consequences and are over-confident in their ability to perform relative to others' expectations. This explanation is somewhat unlikely given that nondisplay of imperfection is linked to higher depression and social anxiety, and to lower self-esteem (Hewitt et al., 2003). Second, those high in nondisplay may not feel threatened by the disclosure task required in this study, that is, verbal self-disclosure. Individuals high in nondisplay may report greater threat and doubt over their behavior when faced with interpersonal situations requiring performance, such as public speaking or performing a task. The interpersonal demands of a one-on-one interview may not involve the relevant elements (e.g., public performance) likely to elicit threat in those high in nondisplay. Thus, the nature of the task in combination with the core fear of each PSP dimension may be the critical determinant of appraisals.

Third, it is possible that those high on nondisplay do experience the same feelings of threat but more actively resist admitting to them. That is to say, they are bluffing. They are either denying the full extent of their feelings of inadequacy or they are painting a more positive picture of the interviewer than would be ex-

pected given their emotional distress. Additional research is required to better understand the unique role of nondisplay in self-reported perceptions of interpersonal situations.

Overall, the results suggest that individuals high in PSP, particularly nondisclosure, may engage in cognitive processing biases both before (i.e., anticipatory) and after (i.e., rumination) an event that are likely to result in interpersonal problems (Alden & Beiling, 1998) and to contribute to feelings of interpersonal anxiety (Clark & McManus, 2002). This is consistent with assertions that those with perfectionistic tendencies anticipate and respond to stress in ways that are likely to intensify stressful experiences (Hewitt & Flett, 2002). These appraisals may also play a significant role on the therapeutic process, discussed in greater detail below.

Appraisals of therapists made by those high in nondisclosure are in keeping with the larger literature on parenting styles and family environments conducive to perfectionism (see Flett, Hewitt, Oliver, & Macdonald, 2002). Theory and research suggest that parenting styles characterized by high levels of criticism and demandingness, along with affection that is conditional on flawless performance, are associated with higher levels of perfectionism in adulthood (Blatt, 1995). Children exposed to such a parenting style learn that disclosures of imperfections are something to fear and to avoid, as such disclosures may cost them the affection and the approval of their parents (Benjamin, 1996). When individuals reared in such a family environment enter therapy, they may feel threatened by their therapist and avoid disclosures of imperfections because they expect their therapist to criticize them and to judge them in a manner consistent with their parents. Appraisals of therapists reported by participants high in nondisclosure may thus represent a reenactment of an earlier family dynamic.

In addition to negative appraisals, PSP is positively related to distress in the form of negative affect both before and after the interview. Given the ties with the appraisals discussed above, these results seem consistent with Schlenker and Leary's (1982) proposal

that individuals who feel they will be unsuccessful in presenting a desired image will experience anxiety in an interpersonal situation, and they are consonant with links between social anxiety and a fear of social disapproval (e.g., Arkin, Lake, & Baumgardner, 1986). It would seem that nondisplay of imperfection and self-promotion of perfection may be particularly relevant in elevating distress prior to the interview while nondisclosure of imperfection may be related to greater distress following the interview. For example, self-promotion predicted pre-interview negative affect even when depression and interaction anxiety were controlled whereas nondisclosure was associated with an increase in distress following the interview at the bivariate level, above pre-interview levels. For those high in nondisclosure, such an increase in negative mood post-interview might be expected to the extent that rumination following the interview leads them to interpret the neutral position of the interviewer as indicating social disapproval. Equally clear, however, is that there are multiple determinants of mood ratings and that PSP, although related to distress, is not a strong unique predictor.

A final indicator of the aversiveness of the clinical interview was physiological arousal. PSP was related to increased arousal during the discussion of serious mistakes, and the important dimension appears to be nondisclosure. As illustrated in Figure 1, while all participants showed an increase over relaxation when discussing the reason why they were seeking treatment, those high on nondisclosure showed a significant increase over and above this level when faced with discussing a serious mistake, compared to those low on this dimension, who actually began to decrease in arousal. Although physiological arousal is not necessarily indicative of distress (Tomaka, Blascovich, Kelsey, & Leitten, 1993), physiological arousal in conjunction with negative affect and cognitions of threat provides compelling evidence that the experience of discussing past mistakes was more distressing for those high in nondisclosure (Herrald & Tomaka, 2002). Those high in self-promotion displayed high levels of heart

rate during most of the interview, regardless of whether they were discussing a past mistake. This may indicate that those high in self-promotion felt that the entire interview was threatening, whereas those high in nondisclosure may have been primarily distressed during the discussion of past mistakes.

### Implications for Psychotherapy

Although this analogue study has some limitations regarding generalizing to a true clinical setting, it suggests several implications for clinical work that should be explored in further research. For example, it is clear that clinical participants high on PSP, and high on nondisclosure in particular, seem to experience a clinical interview as threatening and are more distressed by the interview and by the interviewer. This may have a significant impact on the process and the eventual outcome of psychotherapy. It is certainly consistent with expectations that individuals with this perfectionistic interpersonal style would have difficulty initiating and sustaining a therapeutic alliance which is viewed as necessary for a positive outcome (Samstag et al., 1998) and characterized by personal disclosures (Hewitt et al. 2003; Zuroff et al., 2000). Moreover, it may also have an impact on whether individuals actually engage appropriately in treatment and whether they will continue with treatment or drop out early (Hewitt et al., 2007). It has been shown that perfectionistic attitudes can have a negative impact on treatment outcome, and this investigation provides some additional insights into these findings (Blatt, Zuroff, Quinlan, & Pilkonis 1996; Zuroff et al., 2000) that perfectionism may disrupt the therapeutic alliance. The current work suggests that it might be the desire to avoid being known as imperfect, rather than perfectionistic dysfunctional attitudes, that has a direct impact on the quality of the therapeutic alliance. For instance, individuals high in PSP experience the interpersonal interaction with the clinician as threatening, aversive, and stressful. In particular, they perceive the therapist as critical and judgmental. This distress and distrust of the therapist may inter-

fere with the formation of a working relationship in therapy, as has been demonstrated in past research (Muran, Segal, Samstag, & Crawford, 1994; Piper et al., 1991). Given that the clinical experience is stressful and aversive, perfectionists may respond with their typical coping response of avoidance (Dunkley, Sanislow, Grilo, & McGlashan, 2006), resulting in resistance in the form of missed sessions and premature termination, further undermining the therapeutic process. Thus, these patients appear to come into therapy handicapped in regard to forming the early therapeutic alliance that is an important determinant of outcome (Kokotovic & Tracey, 1990).

Such impairment in the early stages of the alliance is clearly demonstrated in this study. Controlling for the degree of distress, interviewers rated those high in self-promotion and high in nondisclosure as less likeable and were less willing to have individuals high on any of the three PSP dimensions as patients. While the clinicians' ratings of these patients are likely to be multi-determined, research suggests that therapists are particularly sensitive to cues regarding the patient's ability to be genuinely emotionally open (Helstone & Vanzurren, 1996); it is possible that our interviewers were able to distinguish subtle cues that perfectionistic self-presenters are unwilling to be vulnerable even though they may recite difficult facts. These results provide compelling evidence that the early therapeutic alliance may be fragile for perfectionistic self-presenters. It may be critical for therapists to be especially mindful of the difficulties in establishing a therapeutic alliance when working with perfectionists. More generally, these findings support our contention that PSP is a neurotic interpersonal style that produces a neurotic paradox. *vis.*, it elicits the exact interpersonal devaluation it was attempting to prevent (Hewitt et al., 2003).

This discussion suggests that for individuals with high levels of perfectionism, process oriented psychotherapies that focus on treating the perfectionistic self-presentational components might be most appropriate for treatment (Hewitt & Flett, 2007). In fact, re-

search by Sidney Blatt and colleagues (Blatt, 1992; Blatt, 2004; Blatt & Zuroff, 2005; Blatt, Auerbach, Zuroff, & Shahar, 2006) as well as Hewitt, Flynn, Mikhail, Sherry, & Flett (2007), has demonstrated that intensive psychodynamic treatments may be most efficacious and appropriate. Thus, it would seem that treatments that emphasize process, interpersonal dynamics, and transference issues, and not simply symptom reduction of the outcomes of perfectionism or the cognitive components of perfectionism, would be most appropriate (Greenspon, 2007; Hewitt & Flett, 2007; Sorotzkin, 1998). There are numerous examples of how aspects of perfectionistic behavior can be intransigent and remain elevated after various forms of treatment that focus on symptom reduction, including medication, cognitive behavioral therapy, interpersonal therapy, and mixed therapeutic approaches, have been evaluated (e.g., Bastiani et al., 1995; Blatt et al., 1995; Cox & Enns, 2003; Reda, Carpinello, Secchiaroli, & Blanco, 1985). Although some studies have shown that some cognitive features of perfectionism may change post-treatment as a function of non-process models of therapy (e.g., Ashbaugh et al., 2006; DiBartolo, Frost, Dixon, & Almodovar, 2001; Enns, Cox, & Pidlubny, 2002) it may be that the more deeply ingrained perfectionism traits and/or the perfectionistic interpersonal styles are more intransigent and difficult to treat and, if left unchanged, may continue to have an effect on the individual's maladjustment. The importance of longitudinal studies of the treatment of perfectionistic behavior is clear.

More broadly, the current findings lend support to the idea that the focus of psychotherapy should be on patient characteristics and personality vulnerabilities that bear directly and indirectly on the psychopathology the patient exhibits rather than on the clinical syndrome symptoms *per se*. The appears to be a rush to establish empirical validation for specific treatments for specific Axis 1 disorders, when only the Axis 1 disorder defines the clinical experimental group and only when symptom reduction defines treatment success. An important element of successful treatment

involves not simply symptom reduction but also prevention of relapse. It would appear that dealing directly with personality vulnerability factors and interpersonal factors that can determine or influence outcome in treatment would provide better targets for interventions (see Blatt Auerbach, Zuroff, & Shahar, 2006),

In addition to the nature of the relationship between therapist and patient, the results suggest that the actual process and content of therapy may require quick and close attention for those high in PSP. For instance, it may be important early on to pay special attention to the patient's response to perceived feedback; the negativity in our participants' appraisals suggests that perfectionistic self-presenters may be prone to labeling any of the therapist's comments or lack of comments as reflecting negative judgments. This suggests that parataxic distortions or transference responses may occur quickly and decisively for perfectionistic individuals. It is also possible that there may be different events during therapy that will trigger significant distress for those high in self-promotion, nondisplay, and nondisclosure. The data provide evidence that the patient who promotes his/her perfectionism may experience threat throughout the clinical experience and may experience significant anticipatory anxiety whereas the patient who wants to avoid admitting to imperfections will experience episodes of disclosure as distressing, and may ruminate following the session to a greater extent. In contrast, the patient who does not want to be seen as imperfect may have particular difficulty in his or her attempts to be the perfect patient.

Overall, this study highlights the Sullivanian notion that personality is expressed in an interpersonal context (Sullivan 1938/2000). The difficulty perfectionists have in forming a working relationship with the therapist is consistent with their difficulties with intimate relationships (Hewitt et al., 2003; Shahar, Blatt, Zuroff, Krupnick, & Sotsky, 2004). This suggests that perfectionists suffer from an overall dysfunction in the ability to form positive, stable, and healthy attachments. Thus, perfectionists should benefit from

interventions that directly address their maladaptive interpersonal patterns in a therapeutic context in addition to focusing on broader aspects of their personality. Furthermore, therapists may need to acknowledge and deal directly and quickly with the defensive interpersonal style of those high in PSP in order to form a productive therapeutic alliance (e.g., Crowe & Luty, 2005; Fowler & Perry, 2005).

#### Current Limitations, Future Directions, and Concluding Remarks

One limitation that could be addressed in future research is the lack of information on the actual performance of the individual on the different social variables. It is possible that those high in PSP are accurately predicting poorer performance during the interview. A second direction for future research is to include a direct measure of the subjective experience of interpersonal threat to supplement the discrepancy scores used in this study. This may help to tease apart the difference between nondisplay and nondisclosure in relation to interpersonal perceptions. Future research should also consider whether PSP is a deliber-

ate behavior that is strategically deployed or an automatic, non-conscious behavior that is reflexively expressed, or both. Such research would be valuable in guiding the type and the duration of psychological intervention. There is also a need to assess the impact of PSP on treatment over time.

Patients come into therapy with a complex set of thoughts, emotions, and fears. This study illustrated the challenge faced by some patients who want to be known as perfect. They are more depressed when they come—and more distressed by coming. They feel particularly threatened, they assume they will do poorly, and they predict they will be judged harshly. They are more stressed by the process and feel worse afterwards. They feel they have done poorly and have been a disappointment. In essence, they experience their worst nightmare—exposing their imperfections to another. Knowledge of the cognitive, affective, and physiological reactions of those high in perfectionistic self-presentation may assist in addressing barriers to their seeking treatment and helping those who are experiencing distress they feel unable to share.

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