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Perfectionistic Self-Presentation in Children and Adolescents: Development and Validation of the Perfectionistic Self-Presentation Scale—Junior Form

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Research on adults indicates that perfectionistic self-presentation, the interpersonal expression of one's perfection, is associated with a variety of psychopathological outcomes independent of trait perfectionism and Big Five traits. The current article reports on the development and evidence for the validity of the subtest score interpretations of an 18-item self-report measure of perfectionistic self-presentation for children and adolescents. Analyses conducted on data from two clinical samples and one nonclinical sample of children and adolescents found that the Perfectionistic Self-Presentation Scale—Junior Form (PSPS–Jr) reflected a multidimensional model of perfectionistic self-presentation with three subscales: Perfectionistic Self Promotion, Nondisplay of Imperfection, and Nondisclosure of Imperfection. The subscale scores were found to demonstrate internal consistency, and there was good evidence supporting the validity of the interpretation of subscale scores based on this new measure. The subscales were associated with maladaptive outcomes, but were not influenced unduly by biases that included social desirability and differential item functioning by gender. Overall, the PSPS-Jr appears to be a useful measure of the expression of perfection among youths and an important tool in attempting to understand the nature and the consequences of perfectionistic self-presentation in children and adolescents.

Keywords: perfectionism, perfectionistic self-presentation, psychopathology, children, adolescents

Researchers, clinicians, and theorists interested in the connection between personality and psychopathology have long viewed perfectionism as an important variable (e.g., Horney, 1950; Pacht, 1984). A growing evidence base links perfectionism to a variety of forms of psychopathology, including eating, anxiety, and depres-

sive disorders, as well as suicide behaviors and achievement and relationship difficulties (for reviews, see Flett & Hewitt, 2002). Collectively, this research suggests that perfectionism is a key variable in the onset, maintenance, and exacerbation of many forms of psychopathology.

Issues involving the assessment and the conceptualization of perfectionism are closely linked, and general evidence attests to the validity of multidimensional models of perfectionism (see Cox, Enns, & Clara, 2002; Enns & Cox, 2002). To date, trait-based models and measures of perfectionism among adults have dominated the field (e.g., Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991), and these models reflect both intrapersonal and interpersonal components that relate differentially to negative outcomes (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993; Hewitt & Flett, 2008; Kawamura, Hunt, Frost, & DiBartolo, 2001).

Hewitt and Flett Multidimensional Model of Perfectionism

Hewitt, Flett, and colleagues (Hewitt & Flett, 1991; Hewitt et al., 2003, Hewitt, Habke, Lee-Baggley, Sherry, & Flett, 2008) proposed that perfectionism is a neurotic or maladaptive personality style that involves three major personal and interpersonal components (Hewitt & Flett, 2008). The first component includes three trait perfectionism dimensions that reflect the need to be

perfect, either for oneself or for others, and the perception that others require perfection of oneself (Hewitt & Flett, 1991). These traits are known as *self-oriented perfectionism* (i.e., requirement of the self to be perfect), *other-oriented perfectionism* (i.e., requirement that others be perfect), and *socially prescribed perfectionism* (i.e., perception that others require perfection of oneself). The second component in the model reflects the interpersonal expression of perfection or the drive to appear to others as perfect by either publicly promoting one's "perfection" or by concealing one's imperfections. This is known as perfectionistic self-presentation and involves three facets, including *perfectionistic self-promotion* (i.e., actively promoting one's supposed perfection to others), *nondisplay of imperfection* (i.e., avoidance of potential displays of imperfection to or around others), and *nondisclosure of imperfection* (i.e., avoidance of verbal disclosures of imperfection to others). Finally, the third component involves cognitive processes that reflect the processing of information with perfectionistic cognitive structures (Besser, Flett, Guez, & Hewitt, 2008; Hewitt & Genest, 1990) and automatic thoughts with perfectionistic themes (Flett, Hewitt, Blankstein, & Gray, 1998). These different components have been hypothesized to relate differentially to types of psychopathology and achievement and relationship problems. A great deal of research over the past 20 years has supported many of these predictions (see Flett & Hewitt, 2002, for reviews).

Although much research has been directed toward perfectionism traits, the focus of this report is on perfectionistic self-presentation among children and adolescents.[1] Past work on perfectionistic self-presentation has focused on this extreme interpersonal style in adults, and there has been limited evaluation of this self-presentational style in children even though it is generally recognized that younger people are highly focused on how they appear to others. Accordingly, the current article describes the development, psychometric properties, and correlates of an age-appropriate measure designed specifically to assess perfectionistic self-presentation in children. Previous work on perfectionistic self-presentation is described below along with an explication of how perfectionistic self-presentation provides additional information beyond interpersonal trait perfectionism.

Perfectionistic Self-Presentation

Hewitt et al. (2003) described a component of the perfectionism construct that is viewed as relevant to specific kinds of psychopathology and a variety of clinical issues. These authors suggested that, rather than needing to be perfect, as is evident in trait dimensions of perfectionism, needing to appear to others as perfect—or perfectionistic self-presentation—is an important component of the perfectionism construct that reflects the interpersonal expression of one's "perfection." Although in some ways similar to socially prescribed perfectionism, perfectionistic self-presentation and socially prescribed perfectionism differ meaningfully. For example, people who perceive high levels of socially prescribed perfectionism may reject these unrealistic expectations and/or rebel against them. Alternatively, they may attempt to create the image that they are living up to these and other expectations by presenting themselves as if they were perfect and by avoiding situations that will highlight their flaws and inadequacies (Hewitt et al., 2003). Hewitt et al. (2003, 2008) proposed three

dimensions or facets of perfectionistic self-presentation. The first facet, known as *perfectionistic self-promotion*, reflects the need or drive to appear to others as if one is perfect and entails characteristics such as excessive concerns over presentations of the self as perfect, an excessive concern with or motivation to have others see the self as perfect, and unrealistically presenting one's "perfection." The second facet, *nondisplay of imperfection*, reflects the need to avoid showing or demonstrating overtly any imperfection or perceived shortcoming and involves characteristics such as excessive concerns over public errors, avoidance of situations where shortcomings or "less than perfect" behavior or performances might be revealed, and elaborate attempts to hide mistakes from others. Finally, the third facet, the *nondisclosure of imperfection*, reflects the need to avoid admission or disclosure of imperfection and involves characteristics such as avoidance of admitting to errors or shortcomings, not revealing verbally to others one's problems, and evasiveness in interpersonal interactions. Generally, these facets are consistent with the self-presentation literature that suggests that self-presentation can take two general forms, the first being an attributive style that involves proclaiming particular images and the second being a repudiative style that involves concealing particular images of the self (e.g., Jones & Pittman, 1982). For adults and children with excessive levels of any of the facets of perfectionistic self-presentation, these self-presentational styles may be linked with public self-consciousness and represent a "false front" (see Elliott, 1982) or a "false self" (Winnicott, 1960) that can develop in an attempt to compensate for vulnerable self-worth or lack of a clear sense of identity.

Hewitt et al. (2003) developed the Perfectionistic Self-Presentation Scale (PSPS) to measure the perfectionistic self-presentational facets in adults, and research with this scale has found that the facets are differentially related to adjustment problems such as disordered personality (Sherry, Hewitt, Besser, Flett, & Klein, 2006), anorexia nervosa (Cockell et al., 2002), body image disturbance (Cash, Melnyk, & Hrabosky, 2004; McGee, Hewitt, Sherry, Parkin, & Flett, 2005; Rudiger, Cash, Roehrig, & Thompson, 2007), anxiety sensitivity, and depression (Besser, Flett, & Hewitt, 2010; Flett, Greene, & Hewitt, 2004), reticence in accessing mental health services (Hewitt et al., 2009), and to interference with clinical interviews and establishing a therapeutic alliance (Hewitt, Habke, Lee-Baggley, Sherry, & Flett, 2008). Importantly, in most of these studies, facets of perfectionistic self-presentation were shown to uniquely predict various maladjustment outcomes after controlling for either trait levels of perfectionism or Big Five traits, thereby suggesting a unique role for the perfectionistic self-presentation construct.

Perfectionism in Children

Numerous theorists have underscored the importance of perfectionism in children (e.g., Hamachek, 1978), and there is increasing research on perfectionism in youths, usually focusing on psychopathology such as suicide behavior (e.g., Enns, Cox, & Inayatulla, 2003; Hewitt, Newton, Flett, & Callander, 1997), depression (e.g.,

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[1] We use the term *children* to denote both children and adolescents. When referring specifically to adolescents, we use the term *adolescents.*

Kenney-Benson & Pomerantz, 2005), eating disorders (e.g., Castro et al., 2004; Serpell, Hirani, Willoughby, Neiderman, & Lask, 2006), and anxiety (e.g., Libby, Reynolds, Derisley, & Clark, 2004). Often, these studies have used adult versions of perfectionism measures in samples of children (e.g., Hankin, Roberts & Gotlib, 1997; Parker, 2002). However, this is problematic because measures that have been developed on adults may not be appropriate for use in youths because of lack of validation, item appropriateness, and developmental differences in constructs being measured (see American Educational Research Association, Psychological Association, & National Council on Measurement in Education, 1999).

There have been some attempts to develop measures of perfectionism and related behavior in children (e.g., Rice & Preusser, 2002), and one measure of perfectionism consistent with our multidimensional model of perfectionism, the Child–Adolescent Perfectionism Scale (CAPS; Flett, Hewitt, Boucher, Davidson, & Munro, 2000), was developed specifically for children. Modeled after its adult counterpart (Hewitt & Flett, 1991), the CAPS measures self-oriented and socially prescribed perfectionism in youths. This measure has been used extensively and has proven useful in research that has examined the role of trait perfectionism in extreme self-harm behaviors (Nock & Prinstein, 2005) as well as the links between perfectionism traits and various forms of maladjustment, including anxiety, depression, and suicide behavior among children (Essau, Leung, Conradt, Cheng, & Wong, 2008; Flett et al., 2000; Flett, Hewitt, & Cheng, 2008; Hewitt et al., 1997; Hewitt et al., 2002; Huggins, Davis, Rooney, & Kane, 2008; Kenney-Benson & Pomerantz, 2005; McCreary, Joiner, Schmidt, & Ialongo, 2004; Stornelli, Flett, & Hewitt, 2009). Although the CAPS has proven useful as a multidimensional measure of perfectionism traits (see O'Connor, Dixon, & Rasmussen, 2009), it is important to note that it does not include any measure of the interpersonal, self-presentational expression of perfectionism.

The notion of perfectionistic self-presentation in children and the need to appear to others as if perfect, is a relatively new conceptualization and there is some support that this interpersonal style may be evident among youths. For example, Bruch (1973) noted her adolescent patients needed to project an image of perfection and often described a discrepancy between the perfect image they presented to others and their inner experience of themselves. Subsequent authors have pointed to a facade or mask displayed by certain adolescents who are highly invested in creating and maintaining an ideal public image. Peterson (2003) described a "facade of invulnerability" that is common among intellectually gifted but troubled youths. He noted that "It is not easy for them to reveal doubts, embarrassments, shame, and feelings of awkwardness" (p. 66), so instead they project a false, idealistic self. Those adolescents who manifest a false self designed to project an image of being flawless should be exceptionally self-conscious given the high levels of concern over social acceptance, social integration, and avoidance of public failures characteristic of adolescents (see Berndt, 1979). A case can be made that perfectionistic self-presentation is perhaps most relevant to study among adolescents for these reasons, and this underscores the need for a measure of perfectionistic self-presentation for youths. It is known, generally, that an unwillingness to disclose issues involving the self is implicated in the distress of adolescents who are not revealing secrets to others (Frijns & Finkenauer,

2009). In fact, it was suggested recently by Frijns and Finkenauer (2009) that adolescents are particularly likely to be nondisclosing because they suffer from the "fallacy of uniqueness" described by Pine and Aronson (1981, p. 35). That is, they perceive that all of their peers are coping relatively well, and as a result, it is highly revealing and undesirable to admit personal shortcomings and mistakes to others.

Individual differences in perfectionistic self-presentation in children are also suggested by related individual differences in public self-consciousness. Recent research has confirmed that children can be differentiated in terms of trait public self-consciousness, and this form of self-consciousness predicts social anxiety (Higa, Phillips, Chorpita, & Daleiden, 2008). Public self-consciousness and perfectionistic self-presentation are highly associated among adults (Hewitt et al., 2003), and this points to the possible presence of related individual differences in perfectionistic self-presentation.

Existing evidence on perfectionistic self-presentation in children is quite limited. One investigation found that facets of perfectionistic self-presentation were associated with appearance-related variables, but this work was based on the adult version of the PSPS because an age-appropriate measure of perfectionistic self-presentation had not yet been created (Flett, Demerjian, Newby-Armstrong, & Hewitt, 2009). In another study using the adult version of the PSPS, which was translated into Spanish, Castro et al. (2004) found that children with anorexia nervosa scored higher on total perfectionistic self-presentation scores, but no associations were reported with the subscales of the PSPS.[2] These studies suggest that individual differences in perfectionistic self-presentation may be found among younger people and may be related to important outcomes.

More general evidence attests to the presence of self-presentational tendencies among children. Preschool children have been shown to engage in self-presentational behavior, differentiating between their inner emotional experience and what they express in their behavior to others (Saarni & Harris, 1989). By age 11, children will vary their selection of self-descriptive statements according to the audience to whom they are presenting (Banerjee, 2002). Finally, Martin, Leary, and O'Brien (2001) showed that self-presentational concerns were directly associated with the performance of some health practices (i.e., exercise, dieting, smoking, and drinking alcohol) for children. Overall, these studies suggest that, for children, self-presentation is a relevant construct, and perfectionistic self-presentation may be important in producing negative outcomes.

A key issue in this work involves whether the nature of the perfectionistic self-presentation construct as a multidimensional entity should be comparable in youths and adolescents versus adults. Past authors such as Horney (1950) have pointed to early life experiences with parents as central to the development of a tendency to cover up personal flaws and related narcissistic tendencies in adults. As noted above, there is ample evidence of

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[2] Because there is strong evidence that the PSPS is a multidimensional measure with facets that relate differentially to various outcomes (Hewitt et al., 2003), it is not appropriate to collapse across the subscales. We recommend that researchers not present a total score as was done in Castro et al. (2004) but rather present findings with the separate subscales.

individual differences in self-presentational concerns among children, and a tendency to engage in self-presentation is an element that is emphasized in personality research on self-monitoring among children (see Musser & Browne, 1991). Given evidence of developmental differences in self-presentation (Aloise-Young, 1993; Banerjee, 2002), there are likely developmental differences across the age range in the specific themes and ways that perfectionistic self-presentation is expressed and experienced, and this points to a need for a scale with age-appropriate item content and that has language more suitable for children. In particular, for younger people, perfectionistic self-presentation may reflect issues involving personal identity confusion, normative pressures, and needs to fit in with peers or be seen as popular by not making mistakes in public. For them, perfectionistic self-presentation may more often reflect trying to seem to fit in perfectly with perceived prevailing expectations and norms.

Purpose of Present Research

The purpose of this article is to report initial research conducted with multiple samples on the development of a multidimensional measure of perfectionistic self-presentation for children and adolescents, the Perfectionistic Self-Presentation Scale—Junior Form (PSPS–Jr). The PSPS–Jr is based on our conceptualization of perfectionistic self-presentation as multidimensional with facets assessing perfectionistic self-promotion, the nondisplay of imperfection, and the nondisclosure of imperfection in children (see Hewitt et al., 2003). Development of a measure designed specifically for younger people is in keeping with calls for creating population-specific measures (see Glass & Arnkoff, 1997). Moreover, we sought to create a measure that is suitable for both clinical and nonclinical populations. Accordingly, we evaluated the reliability of subtest scores and evidence of the validity of the subscale score interpretations in both nonclinical and psychiatric samples.

In addition to evaluating the general psychometric properties of this new instrument, we assessed and compared the internal structure of the subscale scores using confirmatory factor analyses to determine whether the measure conformed to the multifaceted construct of perfectionistic self-presentation. Moreover, we assessed the evidence for the validity of the subscale score interpretations in several ways. First, we determined the degree of association between the PSPS–Jr subscales and trait perfectionism dimensions of perfectionism. We expected that, as measures of the broad construct of perfectionism, the self-presentation facets would correlate positively with trait dimensions of perfectionism.

Second, because perfectionistic self-presentation is conceptualized as a specific neurotic interpersonal style with negative implications in terms of distress and impaired functioning (Hewitt et al., 2003), we evaluated the extent to which PSPS–Jr facets were associated with symptoms of distress, including depression and anxiety symptoms. Numerous findings in adult clinical and nonclinical samples have suggested that all three facets of perfectionistic self-presentation are linked with depression symptom severity and negative affect and that concerns with not displaying imperfections are linked with symptoms of anxiety (Hewitt et al., 2003; Hewitt et al., 2008). These findings support our contention that perfectionistic self-presentation is a maladaptive personality or interpersonal style that is associated with negative or maladaptive outcomes. Accordingly, in the current study, we expected that all three PSPS–Jr subscales would be associated with depression and that the Nondisplay of Imperfection subscale would be associated with anxiety severity.

Third, we assessed the degree of association between the PSPS–Jr subscales and measures of theoretically relevant personality variables across several samples. For instance, participants completed two measures of personality features: one that reflected nonclinical psychopathic tendencies and another that assessed Machiavellianism. Although perfectionistic self-presentation is not commonly viewed as a precursor to or a form of clinical psychopathy, there are components or personality features evident in such a personality style that should be associated with perfectionistic self-presentation. For example, features reflecting interpersonal manipulativeness and grandiosity and affective features reflecting lack of emotionality should be associated with the PSPS–Jr facets. This possibility is in keeping with data from adult samples indicating that perfectionistic self-presentation may represent a component of antisocial individuals' chameleon-like repertoire of self-presentational behaviors (Sherry et al., 2006). Research with adults indicates that facets of perfectionistic self-presentation are linked to narcissism, antisociality, grandiosity, manipulativeness, and presentation of desirable images to others (Hewitt et al., 2003; Sherry, Hewitt, Flett, Lee-Baggley, & Hall, 2007). These characteristics involve strategies to manipulate social interactions and appraisals of others (Jakobwitz & Egan, 2006); thus, we expected the interpersonal features of nonclinical youth psychopathy to be associated with attempts to present an image of perfection, especially perfectionistic self-promotion. Moreover, we have argued that a lack of emotional expression is an important correlate of perfectionistic self-presentation (Besser, Flett, & Hewitt, 2010) and may be reflected not only in the suppression of anger but also in terms of lack of emotional responses that may be revealing of oneself. Horney (1950) posited that perfectionists may be likely to be expressive when it comes to displaying positive emotions but may be particularly likely to subdue the overt expression of negative emotions such as hostility or distress because social expectations dictate that perfectionistic people should not be overly emotional. Rather, they should appear to be calm and in control during times of stress. Specifically, she discussed the basic hostility of perfectionistic children and their suppression of this emotion. Accordingly, we expected a link between the affective components of youth psychopathy (e.g., lack of remorse and emotionality) as well as emotional suppression and perfectionistic self-presentation.

Yet, certain constructs measured in our investigation (e.g., impulsivity, thrill seeking, and irresponsibility) should not be associated with perfectionistic self-presentation, as perfectionism has not been theoretically linked with any of these, nor has there been evidence that these kinds of behaviors are correlated with perfectionism (e.g., Hewitt & Flett, 1993). Thus, in order to provide discriminant evidence of subscale interpretations, we also included the psychopathy subscale measures that have no theoretical connection to perfectionistic self-presentation—namely, scales relating to impulsivity, irresponsibility, and thrill seeking.

We also assessed the degree to which the PSPS–Jr facets were associated with Big Five traits to determine whether perfectionistic self-presentation is distinct from higher order personality traits. Sherry et al. noted that "the Big Five traits are unlikely to capture the excessive striving, interpersonal processes, and reactivity to failure that we regard as central to the perfectionism construct" (p. 488). Moreover, the Big Five measure is a measure of the level of traits, whereas the PSPS–Jr assesses the interpersonal expression of perfectionistic behavior. In two research reports with adults, there were equivocal relationships between the Big Five traits and the perfectionistic self-presentation facets (Hewitt et al., 2003; Sherry et al., 2007). Thus, few, if any correlations were anticipated between the PSPS–Jr facets and the Big Five traits. In addition, we sought to establish further evidence of the interpretative validity of the PSPS–Jr facet scores in predicting various outcomes after controlling for trait perfectionism or other personality variables.

Finally, we examined several potential sources of bias in the measure by, first, assessing the associations between the PSPS–Jr facets and social desirability. We expected that the PSPS–Jr facets would not be associated with social desirability. Finally, we conducted analyses on differential item functioning to determine whether there was evidence of differential item functioning as a function of gender.

Method

Participants

Sample 1 involved a heterogeneous psychiatric sample of 244 children and adolescents (92 boys, 135 girls; 17 undeclared), with ages ranging from 8 to 17 years and a mean age of 13.3 years ($SD = 2.5$). Participants were patients from two psychiatric outpatient departments that specialized in anxiety and depression disorders at a large teaching children's hospital in Vancouver, British Columbia, Canada. The children had been referred for assessment and/or treatment of a variety of psychiatric problems and, although diagnostic assessments were not completed, the majority of children experienced difficulties including depression, anxiety, and attentional problems. The sample was predominantly Caucasian (79%) or Asian (14%). A subsample of 121 participants (48 boys, 71 girls) also completed a measure of trait perfectionism and a measure of depression severity.

Sample 2 comprised 292 adolescent participants (152 boys, 140 girls) from two affiliated high schools in the Vancouver metropolitan area. The mean age of the sample was 16.3 years ($SD = 1.0$). The measures were completed as part of a larger project dealing with processing of emotional information among adolescents. The sample was predominantly of Asian (67%), European (14%), or other descent (19%).

Sample 3 included 65 posttreatment adolescent cancer survivors (34 boys, 31 girls) from pediatric hematology/oncology programs at two university hospitals. Participants' ages ranged from 12 to 20 years, with a mean age of 15.4 years ($SD = 2.6$). The sample was predominantly Caucasian (95%).

Materials

Initial item pool for the Perfectionistic Self-Presentation Scale—Junior Form. The PSPS–Jr was developed with a sequential system of test construction (Jackson, 1971; see also Butcher, 2010), which have been used in the development of other scales (e.g., Tellegen et al., 2003), including perfectionism measures (Hewitt & Flett, 1991). In this procedure, there are, essentially, two stages. The first stage involves a careful explication of the theoretical construct being assessed, training of item writers, and, finally, generating a pool of potential items. These items are then checked, not for content per se by experts in the area, but for duplication of items, inappropriate grammar, or inappropriate or awkward wording. Items that are not clear are rejected. The second stage involves simply selecting the best items, based only on the obtained statistical or psychometric properties of the items.

After providing information and discussion of the construct of perfectionistic self-presentation, a total of 41 items corresponding to various facets of perfectionistic self-presentation were written by trained item writers, all of whom were clinical psychology graduate students. All items were reviewed and any duplicated, ambiguous, or unclear items were deleted, leaving a total of 34 items which were administered to Sample 1. Each participant was asked to rate how much each item was descriptive of him or her on a 5-point Likert rating scale ranging from 1 (*not at all*) to 5 (*extremely*). As indicated below, the final version of this inventory consisted of 18 items.

Child–Adolescent Perfectionism Scale (CAPS). The CAPS (Flett et al., 2000) is a 22-item measure based on the multidimensional conceptualization of perfectionism (Hewitt & Flett, 1991). The CAPS subscales measure levels of self-oriented and socially prescribed perfectionism. Participants provide 5-point ratings of their agreement with each item. Research indicates that the Self-Oriented and Socially Prescribed Perfectionism subscale scores have test–retest correlations of .74 and .66, respectively, and that the coefficient alpha values were .85 for the Self-Oriented subscale items and .81 for the Socially Prescribed subscale items (Flett et al., 2000). Correlations between the CAPS subscales and the Eating Disorder Inventory Perfectionism Subscale (Garner, Olmstead, & Polivy, 1983) provide evidence of the subscale interpretations of the CAPS scores.

Youth Psychopathic Inventory (YPI). The YPI (Andershed et al., 2002) is a 50-item self-report measure of personality features that are consistent with nonclinical psychopathic personality for use in community samples (Andershed et al., 2002). The measure consists of 10 subscales measuring interpersonal features such as dishonest charm, grandiosity, lying, manipulativeness, affective features such as callousness, lack of emotionality, remorselessness, and behavioral features such as impulsiveness, thrill seeking, and irresponsibility. The test scores demonstrate appropriate reliability with alpha coefficients roughly averaging .75 (Andershed et al., 2002). Moreover, there is adequate convergent evidence and evidence for the multidimensionality of the measure among community and patient samples of adolescents. According to Poythress, Dembo, Wareham, Greenbaum (2006), it is the preferred measure of psychopathic traits.

Machiavellianism–IV (MACH-IV). The MACH-IV (Christie & Geis, 1970) is a 20-item measure that assesses interpersonal manipulation, cynical views, and disdain for conventional

morality, all of which are core attributes of the Machiavellian personality. The measure's scores have coefficients alpha averaging .79 (Jakobwitz & Egan, 2006). It is considered an excellent measure (Fehr, Samson, & Paulhus, 1992), is the most widely used measure of Machiavellianism, and has been used with both adults and adolescents (Yong, 1994).

Beck Depression Inventory–II (BDI-II). The BDI-II (Beck, Steer, & Brown, 1996) measures severity of symptoms of depression and was developed in accordance with diagnostic criteria for major depressive disorder (American Psychiatric Association, 1994). The BDI-II score interpretations are adequate for use with adults and youths. Steer, Kumar, Ranieri, and Beck (1998) found that item scores have good internal consistency (coefficient alpha = .92) among a sample of 210 child outpatients using the BDI. There is evidence of the validity of the scale's interpretations, and it has been used in a variety of samples (Beck et al., 1996).

Adolescent Personal Style Inventory (APSI). The APSI (Lounsbury et al., 2003) consists of 128 items devised to assess Big Five traits (i.e., Conscientiousness, Openness to Experience, Agreeableness, Extraversion, and Emotional Stability). Participants are presented with descriptive statements and rate the extent to which they agree or disagree with these statements using a 5-point Likert scale. According to Lounsbury et al. (2003), internal consistency estimates for the Big Five subscale scores ranged between .77 and .82 for the subscale scores and demonstrated significant correlations between the individual subscale scores and other measures of personality and related criteria (e.g., school grades and attendance).

Revised Children's Manifest Anxiety Scale (RCMAS). The RCMAS (Reynolds & Richmond, 1978) is a 37-item self-report measure that assesses trait anxiety in children. Three anxiety subscales (i.e., Physiological Anxiety, Worry/Oversensitivity, and Social Concerns/Concentration Anxiety) and one social desirability (or lie) subscale have been established through factor analysis (Reynolds & Paget, 1981). The RCMAS scores demonstrate good test–retest reliability (Wisniewski, Mulick, Genshaft, & Coury, 1987), and tests of internal consistency have yielded coefficients alpha of .79 to .85 (Reynolds, Bradley, & Steele, 1980). Concurrent and divergent evidence of the validity of score inferences has been supported in both children (Reynolds, 1980) and adolescents (Lee, Piersel, Friedlander, & Collamer, 1988).

Pediatric Anger Expression Scale (PAES). The PAES (Jacobs, Phelps, & Rohrs, 1989) measures four styles of anger expression in children: anger-out (outward expression of anger), anger-control (maintaining control of anger), anger-reflection (thinking about anger to resolve feelings), and anger-suppression (directing anger inward). Jacobs et al. (1989) found coefficients alpha for the PAES subscale scores to range between .63 and .74. In addition, Jacobs et al. (1989) demonstrated positive correlations between the PAES subscales and other measures of state and trait anger, as well as self, peer, and teacher ratings of anger expression. Consistent with Harburg, Blakelock, and Roeper (1979), who suggested that anger-reflection and anger-control may be better characterized by one subscale, we have collapsed anger-reflection and anger-control scores into anger-control in reporting our results.

Children's Social Desirability Scale (CSD). The CSD (Crandall, Crandall, & Katkovsky, 1965) is a social desirability scale derived from the Marlowe–Crowne Social Desirability Scale for adults (Crowne & Marlowe, 1960) and is designed to assess the degree of socially desirable responding in children. Crandall et al. (1965), drawing on a sample of 956 children in Grades 3 through 12, found that split-half and one-month test–retest correlations were shown to be high (correlations of .82 to .95 for split-half and .85 to .90 for test–retest).

Procedure

Participants in Sample 1 were referred to the study by clinical staff, and parents and potential participants were asked to volunteer in a study of personality and adjustment. All participants completed the PSPS–Jr items as part of a clinical assessment or as part of a larger research protocol. Participants in Sample 1 completed the initial set of PSPS–Jr items, and a subsample of 121 participants completed the CAPS and the BDI. Participants in Sample 2 completed the 18 items of the PSPS–Jr as part of a larger research project and also completed the MACH-IV and YPI. Finally, in Sample 3, participants completed the PSPS–Jr 18-item measure as well as the CAPS, the APSI, the RCMAS, and the PAES. Participants completed assent forms and parents completed informed consent forms. Participation was anonymous and our study was approved by the ethics board at University of British Columbia.

Results

Item Reduction and Selection (Sample 1)

Initially, item means and standard deviations were examined to determine whether these values were appropriate (i.e., neither too high nor too low so as to avoid ceiling or floor effects) and to establish that their distributions followed a normal curve. Item means ranged from 2.18 to 3.16 (on a 5-point scale), and standard deviations ranged from 1.18 to 1.41, suggesting that item means and standard deviations are appropriate for inclusion in the pool of PSPS–Jr items. All 34 items were analyzed with a principal components analysis with varimax rotation (see Hewitt et al., 2003).[3] Although results indicated that four components had eigenvalues greater than one (see Table 1), a scree plot test supported our contention that three factors underlie the data (see Figure 1). The principal components analysis was repeated specifying a three-factor solution, and items loading above .40 on one factor were retained unless that item also loaded .40 or above on another factor (Field, 2000). This was done so that items were retained on one factor that did not overlap (i.e., have high factor loadings) on other

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[3] We chose principal components analysis with varimax rotation to be consistent with other work in the perfectionism literature (Hewitt & Flett, 1991), including the adult version of the PSPS (Hewitt et al. 2003). We also repeated the principal components analysis specifying an oblique rotation and found that, as with the varimax rotation, all items loaded most highly on their corresponding factors. The main difference between using the varimax and oblique rotations was that the second factor in the analysis with the oblique rotation corresponded to the third factor in the analysis with the varimax rotation. Also, several items loaded above .4 on more than two factors.

Table 1

Eigenvalues, Percentage of Variance, and Cumulative Percentage of Variance Accounted for by Each Perfectionistic Self-Presentation Scale—Junior Form Factor

Factor	Eigenvalue	% of variance	Cumulative % of variance
1	07.80	43.34	43.34
2	01.45	8.07	51.41
3	01.35	7.52	58.93
4	01.01	5.61	64.54
5	0.81	4.50	69.04
6	0.75	4.18	73.22
7	0.69	3.84	77.06
8	0.58	3.24	80.30
9	0.52	2.92	83.22
10	0.49	2.70	85.92
11	0.42	2.31	88.23
12	0.40	2.23	90.46
13	0.37	2.03	92.49
14	0.34	1.91	94.40
15	0.31	1.73	96.13
16	0.29	1.63	97.76
17	0.23	1.29	99.05
18	0.17	0.96	100.00

factors. A total of 21 items were retained and a principal components analysis specifying a three-factor solution was repeated, which left a total of 18 items. Each item loaded above .40 on only one of the factors, with eight items loading above .40 only on Factor 1, six items loading above .40 only on Factor 2, and four items loading above .40 only on Factor 3. These items and their factor loadings are listed in Table 2, where it can be seen that Factor 1 items reflected perfectionistic self-promotion, Factor 2 items reflected nondisplay of imperfection,[4] and Factor 3 items reflected nondisclosure of imperfection.

Principal components analyses were run separately by gender, and factor loadings were tested for congruence between boys and girls. Congruence coefficients for Factors 1, 2, and 3 were .97, .73, and .83, respectively. These values suggest adequate congruence across all factors (see Sakamoto, Kijima, Tomoda, & Kambara, 1998), with some possible gender differences in the underlying factor structure of Factor 2, the Nondisplay of Imperfection factor.

Confirmatory Factor Analysis (Sample 2)

We performed a confirmatory factor analysis (Anderson & Gerbing, 1988) using Sample 2 to assess the accuracy of the underlying three-factor structure of the 18 items obtained by the exploratory principal components analysis. This was done in a structural equation model analysis, using the maximum likelihood estimation strategy (Hoyle & Smith, 1994). We defined a measurement model that included the three assumed latent constructs (factors): perfectionistic self-promotion (with the eights items as its observed indicators), nondisplay of imperfection (with the six items as its observed indicators), and nondisclosure of imperfection (with the four items as its observed indicators), and the intercorrelations among these three latent constructs (see Figure 2).

Confirmatory factor analysis was conducted with AMOS 4.01 software based on a variance–covariance matrix (Arbuckle, 1999). The following criteria were used in evaluating overall goodness-

of-fit for measurement models: (a) the chi-square/degrees of freedom ratio, for which a value in the range of 2–5 indicates a good fit; (b) the robust comparative fit index (CFI; Bentler, 1990); (c) the non-normed fit index (NNFI; Bentler & Bonett, 1980); (d) the Tucker–Lewis Index (TLI; Tucker & Lewis, 1973); and, (e) the root-mean-square error of approximation (RMSEA) with 90% confidence intervals. These indices adjust for sample size and specify the amount of covariation in the data that is accounted for by the hypothesized model relative to a null model that assumes independence among variables. For the CFI, where 1.0 indicates a perfect fit, a value in the range of .95 is generally accepted as indicating a good fit (Hu & Bentler, 1999). For the RMSEA (Browne & Cudeck, 1993), an adequately fitting model will have a RMSEA index between .00 and .06, with 90% confidence intervals between .00 and .10 (Hu & Bentler, 1999).

We chose to accept a model in which the chi-square/degrees of freedom ratio was ≤4 or in which the CFI, NNFI, and TLI were greater than .95. These moderately stringent acceptance criteria clearly reject inadequate or poorly specified models while accepting models that meet criteria for reasonable fit and representation of the data (Kelloway, 1998). In addition to the indices noted above, we also used the expected cross-validation index (ECVI), the ECVI for maximum likelihood estimations (MECVI), basic cross-correlation (BCC), and the Akaike's information criterion (AIC) for comparison between the one- and three-factor models presented below. Smaller MECVI and AIC values suggest better fit and greater parsimony (Kline, 2005).

We calculated the means, standard deviations, and intercorrelations of the 18 items for Sample 2. For all 18 items, the means ranged between 2.35 and 3.53, and the standard deviations ranged between 0.95 and 1.24.

The specified measurement model evidenced acceptable fit to the observed data $\chi^2(132, N = 292) = 420.7$, $\chi^2_l df = 3.18$, $p < .001$, CFI = .98, NNFI = .96, TLI = .97; RMSEA = .08 (90% CI = .07–.09); ECVI = 1.86 (90% CI = 1.66–2.09), with MECVI = 1.89 and AIC = 542.34, and is presented in Figure 3. All the factor indicators and path loadings were substantial, statistically significant, and in the expected direction.

Finally, because the three latent variables were significantly associated with one another, with latent correlations ranging from .51 to .74, we tested whether it could be argued that the three factors should be subsumed under a single, higher order perfectionistic self-presentation factor. Analyses revealed that the three-factor solution fit the data significantly better than a one-factor solution, $\chi^2(132, N = 292) = 571.02$, $\chi^2_l df = 4.23$, $p < .001$, CFI = .96, NNFI = .95, TLI = .95; RMSEA = .11 (90% CI = .10–.11), with $\Delta\chi^2(3) = 150.32$, $p < .001$, and ECVI = 2.33 (90% CI = 2.09–2.60), with MECVI = 2.36 and AIC = 679.02. Burnham and Anderson (1998) suggested that if AIC values for

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[4] One item on the second factor, Item 9, "I want others to know about when I do something well," appears to be somewhat different than the other items comprising the Nondisplay of Imperfection subscale. The item was shown statistically to belong with the Nondisplay of Imperfection subscale items rather than the items from other subscales. That is, the factor loadings suggest that this item functions more closely to the items on the Nondisplay of Imperfection factor than the items on the Perfectionistic Self-Promotion or the Nondisclosure of Imperfection factors.
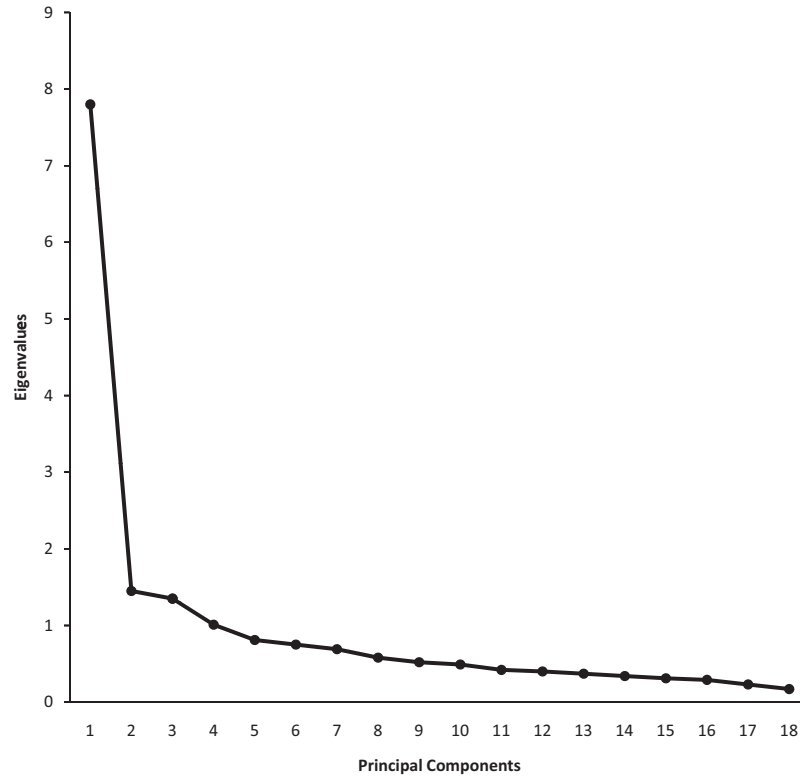
Figure 1.   Scree plot for principal components analysis of Perfectionistic Self-Presentation Scale—Junior Form items.

one model (e.g., the three-factor solution) are 10 or more units lower than AIC values for another model (e.g., the one-factor solution), there is strong evidence one model is better than another model. Thus, confirmatory factor analyses indicated that, although the three factors are significantly correlated, the single higher order perfectionistic self-presentation factor is significantly less representative of the data. The three-factor structure is more representative of the data and supports our contention that the underlying

Table 2
Factor Loadings for the Items of the Subscales of the Perfectionistic Self-Presentation Scale—Junior Form

| Subscale item	Factor 1	Factor 2	Factor 3
Perfectionistic Self-Promotion			
5. I always have to look perfect	.86	.12	.15
17. I try hard to look perfect around other people	.84	.24	.17
18. I like trying to look perfect to other people	.77	.26	.15
4. It is important to act perfectly around other people	.74	.31	.22
2. I always have to look as good as I can	.73	.15	.14
15. I have to look like I always do things perfectly	.73	.25	.24
7. I have to look perfect when I am around others	.63	.28	.14
13. If I seem perfect, other people will like me more	.60	.24	.25
Nondisplay of Imperfection			
11. Mistakes are worse when others see me make them	.26	.78	.13
6. I feel bad about myself when I make mistakes in front of other people	.27	.71	.28
9. I want others to know about it when I do something well	.23	.65	.34
1. I think a lot about mistakes that I have made in front of other people	.12	.64	-.12
16. It would be bad if I made a fool of myself in front of other people	.39	.60	.17
14. I do not want my friends to see even one of my bad points	.36	.42	.36
Nondisclosure of Imperfection			
10. I should fix my own problems rather than telling them to other people	.17	.12	.75
8. I should always keep my problems secret	.14	.12	.73
12. I never let others know how hard I work on things	.16	.02	.69
3. I do not let other people know when I fail at something	.35	.29	.51
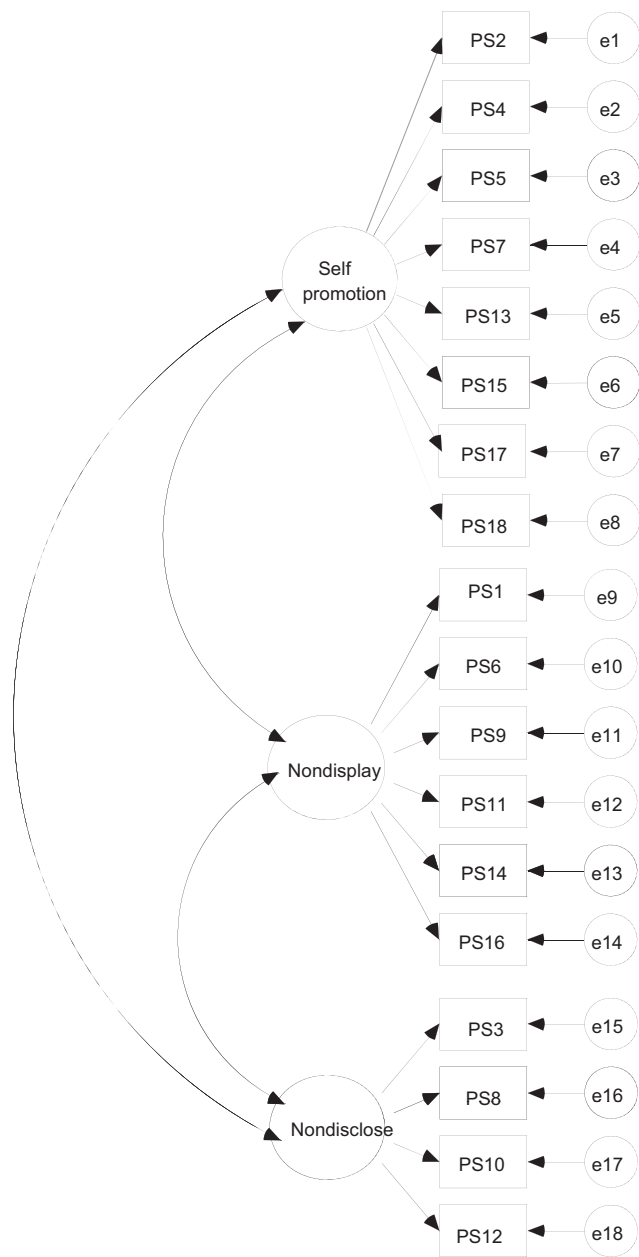
Figure 2. Confirmatory factor analysis model for the Perfectionistic Self-Presentation Scale—Junior Form (PS). Rectangles indicate measured variables (with numbers beside PS representing item numbers), and large circles represent latent constructs (factors). Small circles reflect residuals (e). Bidirectional arrows depict latent correlations, and unidirectional arrows depict hypothesized directional links (path loadings).

structure of the 18 items reflects perfectionistic self-promotion, nondisplay of imperfection, and nondisclosure of imperfection.

Differential Item Functioning

Because there was some indication of potential gender differences among the items from the tests of congruence in Sample 1, we conducted an additional set of analyses, combining Sample 1 and Sample 2 to ensure appropriate sample size, to determine whether any of the 18 items demonstrated differential item functioning as a function of gender (244 boys and 275 girls). We used a procedure utilizing ordinal logistic regression analyses, as described by Slocum, Gelin and Zumbo (in press) and Zumbo (1999) that uses chi-square tests of differential responses to items as well as assessing effect sizes. According to Slocum et al. (in press), an item will show evidence of differential item functioning if the chi-square test of differential item functioning is significant at $p < .01$ and if the corresponding effect size has an R^2 value of at least .035 (Jodoin & Gierl, 2001). A set of ordinal logistic regression analyses was conducted whereby each item was used as a dependent variable in the regression and gender, total PSPS–Jr scores for the corresponding subscale, and a term reflecting their interaction, were used as independent variables. To assess differential item functioning, we subtracted the chi-square associated with the main effect of total scores on the PSPS–Jr item from the chi-square associated with the interaction term after controlling for main effects of gender and total scores. This value, a chi-square difference score, is tested for significance with two degrees of freedom and a significance level of $p < .01$ (Zumbo, 1999). Effect size is similarly calculated, whereby the Nagelkerke R^2 value for the main effect of total scores is subtracted from the Nagelkerke R^2 value for the interaction. Effect sizes of $<.035$ are considered negligible, .035 to .07 are considered moderate, and $>.070$ are considered large (Jodoin & Gierl, 2001).

Table 3 presents the chi-square and R^2 differences for each item for the differential item functioning analyses as a function of gender. It can be seen that although three items showed a significant chi-square difference score, the Nagelkerke R^2 difference score was below threshold for each of these items. Thus, none of the items met the two criteria for differential item functioning, suggesting that none of the items demonstrated a significant bias characterized by differential item functioning as a function of gender.

Descriptive Statistics for Perfectionistic Self-Presentation Scale—Junior Form Subscales

We calculated three subscales scores reflecting perfectionistic self-promotion, nondisplay of imperfection, and nondisclosure of imperfection on the basis of the demonstrated factor structure of the items. Items from the PSPS–Jr were summed into their respective subscales, and means and standard deviations for the two samples were calculated and are presented in Table 4. There were no gender differences in terms of mean levels of the PSPS–Jr subscales for either Sample 1 (in which *F*s ranged between .21 and .74, *ns*) or Sample 2 (in which *F*s ranged between .26 and .54, *ns*), suggesting that boys and girls do not differ on mean levels of perfectionistic self-presentation.

PSPS–Jr subscales were intercorrelated, with correlations ranging between .52 and .65 for Sample 1 and between .38 and .58 in Sample 2. These correlations are similar to the intercorrelations in the adult version of the PSPS and are considered to be moderately high. However, the factor analyses indicated that the measure is better conceptualized as a three-factor instrument rather than as a one-factor instrument. Moreover, the PSPS–Jr subscales were not correlated with age in Sample 1 but, in Sample 2, Perfectionistic
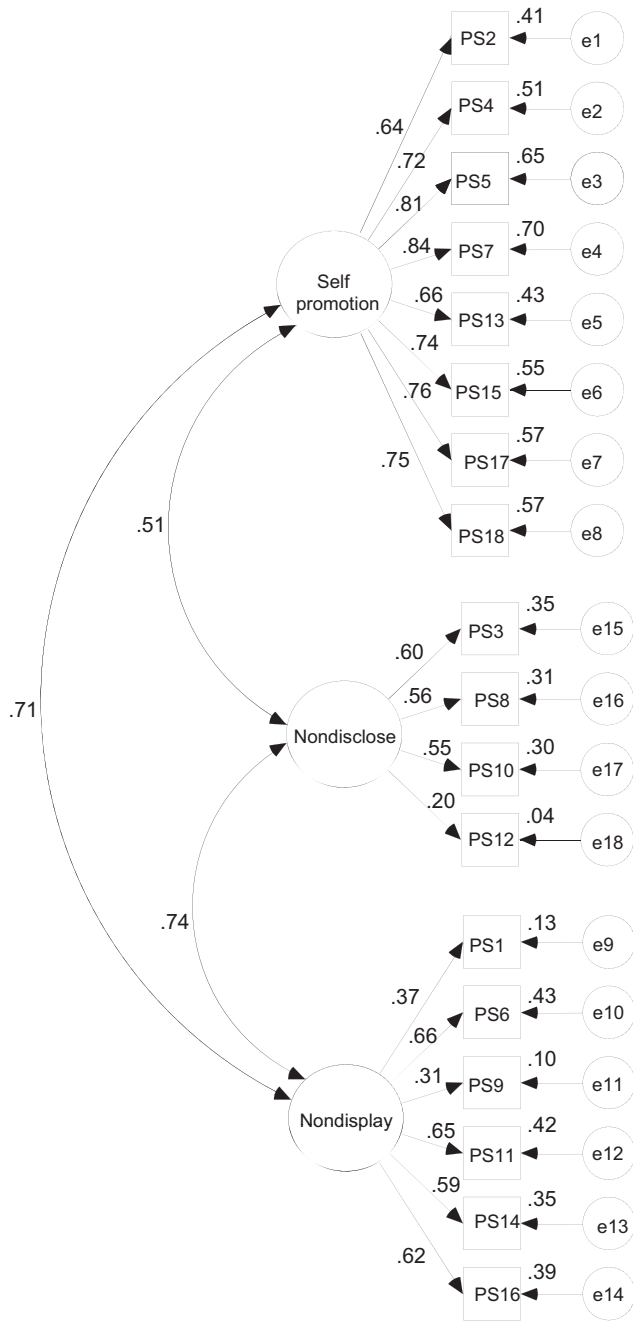
Figure 3. Confirmatory factor analysis for the Perfectionistic Self-Presentation Scale—Junior Form (PS) for Sample 2. Rectangles indicate measured variables (with numbers beside PS representing item numbers), and large circles represent latent constructs (factors). Small circles reflect residuals (e). Bidirectional arrows depict latent correlations, and unidirectional arrows depict hypothesized directional links (path loadings).

Self-Promotion was weakly correlated with age, $r(265) = .13$, $p < .05$.

Coefficient alpha values for the Perfectionistic Self-Promotion, Nondisplay of Imperfection, and Nondisclosure of Imperfection subscale scores were .92, .82, and .72 for Sample 1; .91, .70, and

.60 for Sample 2; and .89, .78, and .66 for Sample 3. Finally, we conducted a Flesch Reading Ease analysis and Flesch–Kincaid grade-level analysis. Both analyses found that the items reflected a reading level of a third- to fourth-grade student (Flesch, 1979).

Validity of the Perfectionistic Self-Presentation Scale—Junior Form Subscale Score Interpretations

The three subscales of the PSPS–Jr were found to be significantly correlated with the trait dimensions of the CAPS. All three PSPS–Jr subscales were correlated significantly with Self-Oriented Perfectionism and Socially Prescribed Perfectionism scores (see top panel of Table 5), providing convergent evidence of the PSPS–Jr subscale score interpretations.

Zero-order correlations between the PSPS–Jr subscales and BDI-II scores were calculated with the data from the subsample for Sample 1. Consistent with research in adults using the PSPS (Hewitt et al., 2003), all three facets of the PSPS–Jr were associated with depression symptom severity (see top panel of Table 5). We conducted a hierarchical multiple regression analysis to determine whether PSPS–Jr facets predicted depression beyond Self-Oriented and Socially Prescribed Perfectionism scores. In predicting depression symptom severity, Self-Oriented and Socially Prescribed Perfectionism scores were entered as the first block and PSPS–Jr facets were entered as the second block. In the upper panel of Table 6, it can be seen that the first block was not a significant predictor of depression, but the second block comprising PSPS–Jr facets was significant. Furthermore, both the Nondisplay of Imperfection and the Nondisclosure of Imperfection subscales were uniquely related to depressive symptoms. These findings suggest that not only are all three perfectionistic self-presentational styles associated with depression symptom severity but that the concealing facet scores (i.e., Nondisplay of Imperfection and Nondisclosure of Imperfection) are uniquely associated with depressive symptom severity beyond the effects of trait perfectionism.

Sample 2

Using Sample 2, it can be seen in Table 5 that Perfectionistic Self-Promotion was associated with the four YPI subscales reflecting interpersonal aspects of psychopathy (i.e., disarming charm, grandiosity, lying, and manipulativeness) as was Nondisplay of Imperfection, although the relationship between this latter facet and lying only approached significance. The Nondisclosure of Imperfection subscale was not associated with any of the four interpersonal subscales. With respect to emotionality components of psychopathy, all three PSPS-Jr facets were associated with remorselessness and lack of emotionality and Perfectionistic Self-Promotion and Nondisplay of Imperfection scores were associated with callousness. This suggests that facets of perfectionistic self-presentation are associated with lack of expression of emotions. Finally, consistent with our expectations, none of the PSPS-Jr facets were associated with any of the impulsive components of psychopathy, thereby providing some evidence of the discriminant validity of the facet scores' interpretations. Also in Table 5, it can be seen that all three PSPS-Jr facets were associated positively with the MACH-IV suggesting that, as with adults, perfectionistic self-presentation seems to be a correlate of Machiavellianism.

Table 3
Differential Item Functioning Analysis by Gender for the Perfectionistic Self-Presentation Scale—Junior Form Items

Subscale item	χ^2 difference	Nagelkerke R^2 difference
Perfectionistic Self-Promotion		
2. I always have to look as good as I can	11.29*	.01
4. It is important to act perfectly around other people	8.97	.01
5. I always have to look perfect	10.47*	.01
7. I have to look perfect when I am around others	17.52*	.02
13. If I seem perfect, other people will like me more	5.42	.01
15. I have to look like I always do things perfectly	9.71	.01
17. I try hard to look perfect around other people	2.02	.00
18. I like trying to look perfect to other people	1.43	.00
Nondisplay of Imperfection		
1. I think a lot about mistakes that I have made in front of other people	1.52	.00
6. I feel bad about myself when I make mistakes in front of other people	8.88	.01
9. I want others to know about it when I do something well	5.35	.01
11. Mistakes are worse when others see me make them	1.40	.00
14. I do not want my friends to see even one of my bad points	2.64	.00
16. It would be bad if I made a fool of myself in front of other people	3.92	.00
Nondisclosure of Imperfection		
3. I do not let other people know when I fail at something	2.22	.00
8. I should always keep my problems secret	4.06	.00
10. I should fix my own problems rather than telling them to other people	2.32	.00
12. I never let others know how hard I work on things	1.40	.00

Note. Chi-square difference scores were evaluated for significance with 2 degrees of freedom. An item is considered to demonstrate differential item functioning if the chi-square difference score is significant at $p < .01$ and the R^2 difference is $>.035$ (Slocum, Gelin, & Zumbo, in press).
* $p < .01$.

Sample 3

As can be seen in the top panel of Table 7, and generally consistent with Sample 1, PSPS–Jr subscales were correlated significantly with Self-Oriented Perfectionism and Socially Prescribed Perfectionism scores, except for a nonsignificant correlation between Nondisplay of Imperfection and Socially Prescribed Perfectionism. Moreover, with respect to correlations with the Big Five traits, both Perfectionistic Self-Promotion and Nondisplay of Imperfection were associated with the Conscientiousness subscale. No other correlations with Big Five traits were significant. Lastly, we conducted zero-order correlations between PSPS–Jr subscales and anxiety and anger, and it can also be seen in Table 7 that Perfectionistic Self-Promotion was not associated significantly with measures of anxiety or anger, but the Nondisplay of Imperfection subscale was associated significantly with total Anxiety scores and with the Worry/Oversensitivity scores. Furthermore, the Nondisclosure of Imperfection subscale was positively associated with the Social Concerns/Concentration Anxiety subscale and the Anger Suppression subscale.

In order to determine whether responses to PSPS–Jr items reflected biased responding based on the social desirability of the items, we calculated the correlation coefficient between each PSPS–Jr subscale and the CSD (see lower part of Table 7). None of the PSPS–Jr subscales were associated with social desirability, suggesting that responses to the items of the PSPS–Jr are not due to a desirability response bias. Similarly, PSPS–Jr subscales were not correlated with the Lie subscale of the RCMAS, providing additional evidence that the PSPS–Jr is not influenced by response biases. Furthermore, item analyses examining correlations between the individual items of the PSPS–Jr and social desirability, as recommended by Jackson (1970), demonstrated that one Nondisplay of Imperfection item correlated negatively with the Lie scale of the RCMAS, and none of the individual items were correlated significantly with the CSD.

We conducted a series of hierarchical multiple regression analyses to determine whether PSPS–Jr subscales were predictive of anxiety and anger beyond the effects of trait perfectionism and Big Five traits (see Table 6). With respect to predicting total anxiety, the first block, containing both CAPS and APSI measures, was a significant predictor of total anxiety with the Emotional Stability subscale being a significant and a unique predictor of anxiety. The second block was also significant, and it was the Nondisplay of Imperfection subscale that was a significant and a unique predictor of variance in total anxiety scores.

In terms of predicting Worry/Oversensitivity, again the first block was significant, with Emotional Stability being a significant, unique predictor; the second block also was significant, with the Nondisplay of Imperfection subscale predicting unique and significant variance. Finally, in predicting the Social Concerns/Concentration subscale, the first block was significant, with the Emotional Stability subscale a significant and unique predictor; the second block also was significant, with Nondisclosure of Imperfection predicting unique and significant variance.

With respect to anger suppression, the initial overall block was not a significant predictor of anger directed inwardly, but the second block was significant. Interestingly, the Nondisplay of Imperfection subscale predicted lower anger suppression scores, and the Nondisclosure of Imperfection subscale predicted increas-

Table 4
Means and Standard Deviations of the Perfectionistic Self-Presentation Scale—Junior Form Subscales for the Separate Samples for Total Scores and Separately for Gender and Ethnicity

Sample	Perfectionistic self-promotion		Nondisplay of imperfection		Nondisclosure of imperfection	
	M	SD	M	SD	M	SD
Sample 1 (*N* = 244)						
Total	20.18	8.55	18.93	5.91	11.29	4.01
Boys (*n* = 92)	19.32	8.19	18.63	6.19	11.18	4.41
Girls (*n* = 152)	20.77	8.77	18.97	5.73	11.36	3.71
Caucasian (*n* = 205)	19.57	8.50	18.36	5.95	11.10	4.05
Asian (*n* = 18)	19.39	6.46	19.41	4.65	11.83	3.22
Subsample 1 (*n* = 121)						
Total	19.78	7.66	18.41	5.47	11.19	3.66
Boys (*n* = 48)	17.91	6.04	17.42	6.19	11.10	3.88
Girls (*n* = 71)	20.74	8.44	18.88	5.92	11.13	3.64
Sample 2 (*N* = 292)						
Total	21.21	7.04	19.24	4.32	11.86	3.01
Boys (*n* = 135)	20.97	6.47	19.03	4.15	11.66	3.10
Girls (*n* = 140)	21.49	7.63	19.45	4.50	12.08	2.90
Caucasian (*n* = 29)	24.03	7.03	20.10	3.35	11.97	2.90
Asian (*n* = 135)	21.00	6.91	19.46	4.29	12.15	2.95
Sample 3 (*N* = 65)						
Total	18.15	6.88	16.59	4.95	9.95	3.21
Boys (*n* = 34)	17.73	5.76	15.95	4.24	10.34	3.22
Girls (*n* = 31)	18.63	8.07	17.27	5.59	9.50	3.20

ing anger suppression scores. Overall, these results provide support for the idea that the different PSPS–Jr facets are differentially related to different symptoms and further support the validity of the measure's subscale score interpretations.

Discussion

The purpose of this investigation was to report on the development of and the evidence for the validity of a measure of perfectionistic self-presentation in children. In general, the findings suggest that perfectionistic self-presentation facets can be assessed in a reliable and valid manner among youths. Moreover, the subscale scores of the PSPS–Jr were shown to be internally consistent, and there was good evidence supporting the validity of the measure's subscale score interpretations. Additionally, facets of perfectionistic self-presentation in children were shown to be associated with maladaptive outcomes, even after controlling trait perfectionism and Big Five traits, but are not influenced unduly by social desirability or by differential item functioning for boys or girls.

Consistent with our conceptualization of perfectionistic self-presentation in adults (Hewitt et al., 2003), the present findings with both clinical and nonclinical samples of children support the multifaceted conceptualization of perfectionistic self-presentation. Children appear to show meaningful individual differences in perfectionistic self-presentation, and the perfectionistic self-presentational styles are differentially related to negative outcomes. Moreover, the present study is in line with past theorizing that children do evidence self-presentational tendencies (Rutland, Cameron, Milne, & McGeorge, 2005) and that some of these self-presentational tendencies may be perfectionistic and associated with negative outcomes (e.g., Bruch, 1978). The findings from this work expand the childhood perfectionism construct by

demonstrating that the interpersonal expression of perfection is a relevant and potentially important construct.

The present findings lend support for the validity of the PSPS–Jr subscale score interpretations as a measure of perfectionistic self-presentation and support the contention that perfectionistic self-presentation in children is associated with, but distinct from, the trait dimensions of self-oriented and socially prescribed perfectionism. This suggests that there is a distinction between the desire to be perfect, as assessed by perfectionism traits, and the desire to appear to others as if one is perfect, as assessed by the perfectionistic self-presentational facets. This distinction has been shown to be important in that there is accumulating evidence that the perfectionistic self-presentational facets are uniquely predictive of maladjustment outcomes and difficulties seeking needed help (Cockell et al., 2002; Hewitt et al., 2008; Sherry et al., 2007).

It is evident that some of the correlational findings are similar for the different facets of the PSPS–Jr and the intercorrelations among the facets are moderate, which could suggest that the PSPS–Jr facets are possibly redundant with one another. However, the factor analysis findings point to differences among the facets and suggest that in both clinical and nonclinical samples, the underlying factor structure of the PSPS–Jr involves three factors and not one general factor. Moreover, there are differential relationships with outcomes suggesting that the facets, even though they are related, are distinct. Perhaps the best example of this distinction involves the findings for levels of anger suppression. The Nondisclosure of Imperfection subscale was the only dimension correlated significantly with anger suppression. Subsequent regression analyses predicting anger suppression found that after controlling for trait perfectionism and Big Five traits, Nondisclosure of Imperfection predicted greater anger suppression, whereas

Table 5

Correlations Between the Perfectionistic Self-Presentation Scale—Junior Form Subscales and Trait Perfectionism, Depressive Symptoms, Machiavellianism, and Psychopathic Tendencies

Measures	Perfectionistic self-promotion	Nondisplay of imperfection	Nondisclosure of imperfection
Subsample 1 (*n* = 121)			
Child Adolescent Perfectionism Scale			
Self-oriented perfectionism	.54***	.38***	.30**
Socially prescribed perfectionism	.52**	.27**	.34**
Beck Depression Inventory	.27**	.35***	.37***
Subsample 2 (*n* = 214)			
Youth Psychopathy Inventory			
Disarming charm	.42***	.23**	.13
Grandiosity	.34***	.22**	.07
Lying	.16*	.13	.12
Manipulativeness	.29***	.17*	.07
Remorselessness	.30***	.24**	.21**
Lack of emotionality	.21**	.26***	.25***
Callousness	.25***	.27***	.10
Thrill seeking	.10	.10	.07
Impulsiveness	.06	.08	.10
Irresponsibility	−.01	−.06	.04
Machievellianism–IV	.15*	.30***	.13*

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

Nondisplay of Imperfection predicted decreased levels of anger suppression. This finding is in keeping with other ongoing research on perfectionistic self-presentation and emotional inexpressiveness among adults, which shows links between inexpressiveness and nondisclosure of imperfection (Flett, Azzi, & Hewitt, 2009). The ability of the Nondisclosure of Imperfection subscale to predict anger suppression is also in keeping with Horney's (1950) suggestion that certain perfectionists are characterized by low emotional expression of their significant feelings of hostility.

Additional results indicate that perfectionistic self-presentation has a potentially complex link with emotional expression and experience because other results in this study suggested that perfectionistic self-presentation is linked with lack of emotionality. Perhaps the tendency to be inexpressive promotes a general sense of emotional detachment, which would make it less likely that emotions would be displayed in public. This might account for the lack of social connectedness and sense of alienation that individuals with excessive levels of perfectionistic self-presentation report (Hewitt, Flett, Sherry, & Caelian, 2006). Moreover, the link between perfectionistic self-presentation and some personality characteristics of individuals with characteristics of psychopathy is novel and fits with the notion that idealistic self-presentations may be a part of the superficial charm of psychopathic individuals. Recent analyses of the development of psychopathy in adolescents highlight the concept of boldness, which is defined as a capacity to remain calm and focused in situations involving pressure or threat (Patrick, Fowles, & Krueger, 2009). Boldness is distinguished from rash impulsivity and antisocial meanness. Youths with elevated perfectionistic self-presentation may be likely to exhibit the sense of poise, high social efficacy, and diminished emotional responsiveness that are central to boldness (Patrick et al., 2009). The obtained links in the current study with charm and grandiosity are also in keeping with evidence suggesting that perfectionistic self-promoters are narcissistic (Hewitt et al., 2003; Sherry, Law,

Hewitt, Flett, & Besser, 2008). Narcissistic individuals may brashly promote an image of perfect capability and invulnerability in pursuit of others' respect, deference, and admiration.

Several of our findings also shed light on the nature of specific perfectionistic self-presentation facets among children and how they might differ from perfectionistic self-presentation in adults. For example, with respect to perfectionistic self-promotion, the findings indicate that this PSPS–Jr facet is associated with trait dimensions of self-oriented and socially prescribed perfectionism and with conscientiousness, but not with any other Big Five traits. This contrasts somewhat with findings from adult samples, wherein perfectionistic self-promotion showed a small but significant association only with decreased emotional stability (Hewitt et al., 2003), and with findings from Sherry et al. (2007), who found a significant correlation between perfectionistic self-promotion and neuroticism. This could suggest that perfectionistic self-promotion differs between adults and children or could reflect differences in either the nature of Big Five traits in clinical samples of children and normal adults or in the different measure of Big Five traits used in the studies.

With respect to the nondisplay of imperfection, this facet, similar to perfectionistic self-promotion, was found to be associated with trait perfectionism dimensions and only with Conscientiousness from the Big Five. On the other hand, this dimension showed significant correlations with depression, anxiety, and marginally with anger, suggesting that this facet is associated with psychological distress and maladjustment. In particular, the regression analyses support the contention that nondisplay of imperfection explains unique variance in negative outcomes beyond various trait measures and the other PSPS–Jr facets.

Finally, in terms of the nondisclosure of imperfection, the findings indicate that this facet is associated with trait perfectionism but not at all with any Big Five traits, suggesting that this facet is distinct from Big Five traits. Furthermore, this facet predicts

Table 6

Hierarchical Multiple Regression Analyses Predicting Depressive Symptoms, Anxiety, and Anger After Controlling for Trait Perfectionism and Big Five Traits

Variable	ΔR^2	ΔF	ß	Variable	ΔR^2	ΔF	ß
Sample 1 (subsample; n = 121)				Step 2	.15	5.74**	
Depression				Perfectionistic Self-Promotion			.02
Step 1	.02	1.31		Nondisplay of Imperfection			.45**
Self-oriented perfectionism			.00	Nondisclosure of Imperfection			.02
Socially prescribed perfectionism			.15	Social concerns/concentration			
Step 2	.17	4.22		Step 1	.37	4.29**	
Perfectionistic Self-Promotion			.02	Self-oriented perfectionism			−.18
Nondisplay of Imperfection			.26*	Socially prescribed perfectionism			.18
Nondisclosure of Imperfection			.21*	Conscientiousness			−.10
Sample 3 (N = 65)				Openness			.11
Total anxiety				Agreeableness			.08
Step 1	.49	6.89***		Extroversion			−.17
Self-oriented perfectionism			.01	Emotional Stability			−.51***
Socially prescribed perfectionism			.09	Step 2	.13	4.07*	
Conscientiousness			−.08	Perfectionistic Self-Promotion			.00
Openness			.02	Nondisplay of Imperfection			.24
Agreeableness			.14	Nondisclosure of Imperfection			.27*
Extroversion			−.13	Anger suppression			
Emotional Stability			−.65***	Step 1	.16	1.41	
Step 2	.12	4.60**		Self-oriented perfectionism			.13
Perfectionistic Self-Promotion			−.01	Socially prescribed perfectionism			.05
Nondisplay of Imperfection			.37**	Conscientiousness			−.21
Nondisclosure of Imperfection			.09	Openness			.17
Worry/oversensitivity				Agreeableness			.30*
Step 1	.43	5.66***		Extroversion			.09
Self-oriented perfectionism			.17	Emotional Stability			.02
Socially prescribed perfectionism			−.04	Step 2	.19	5.74**	
Conscientiousness			.03	Perfectionistic Self-Promotion			−.05
Openness			−.16	Nondisplay of Imperfection			−.36*
Agreeableness			.18	Nondisclosure of Imperfection			.43**
Extroversion			−.07				
Emotional Stability			−.61***				

$* p < .05.$ $** p < .01.$ $*** p < .001.$

outcomes beyond trait perfectionism and Big Five traits, further supporting its uniqueness. Consonant with the idea that nondisclosure of imperfection represents a maladaptive form of impression management, this facet is associated with indices of distress, including depression and anxiety symptoms and problematic anger suppression. In particular, the Nondisclosure of Imperfection subscale was associated with the Social Concerns/Concentration subscale of the anxiety measure, suggesting that social anxiety may be particularly problematic for children high in perfectionistic nondisclosures. This is similar to work with adults who are high on this facet who appear to have excessive social anxiety (Hewitt et al., 2003) and have a heightened sensitivity to publicly displayed symptoms of anxiety (Flett et al., 2004).

Many of the findings from the regression analyses yielded important information. Perfectionistic self-presentation accounted for a significant degree of unique variance in depression, overall anxiety, and the Worry/Oversensitivity and Social Concerns/Concentration Anxiety components. These results accord generally with the findings from a parallel investigation of the usefulness of this new inventory in predicting suicidal tendencies among outpatient adolescents (see Roxborough et al., 2010). The findings further underscore the relevance of perfectionistic self-presentation in clinical dysfunction. The ability of the PSPS–Jr to predict 12% of the unique variance in anxiety in the current study

is particularly noteworthy given that main effect predictor block consisting of trait perfectionism and the dimensions representing the five-factor model accounted collectively for 48% of the variance in total anxiety scores. These findings accord generally with research involving university students that links perfectionistic self-presentation to a heightened degree of anxiety sensitivity, including a fear among perfectionistic self-presenters of publicly observable symptoms of anxiety (see Flett et al., 2004).

Overall, the advent of an appropriate measure of perfectionistic self-presentation in children allows the examination of several important research questions. Perfectionistic self-presentation has been implicated in numerous forms of maladjustment. For example, as stated previously, Bruch (1973) indicated that girls who are vulnerable to eating disorders may have interpersonal styles that reflect perfectionistic self-presentation. Although this issue has been researched in adults, with findings suggesting that nondisplay and nondisclosure of imperfection appear to be important predictors of eating disorder symptoms (e.g., Cash et al., 2004; Hewitt, Flett, & Ediger, 1995; McGee et al., 2005), the only research that has addressed this question in adolescents was done with an adult measure of perfectionistic self-presentation and did not assess the subscale facets of perfectionistic self-presentation (Castro et al., 2004). This is a very important issue to address, as there are several models suggesting the genesis of eating disorders may be

Table 7

Correlations Between Perfectionistic Self-Presentation Scale—Junior Form Subscales and Trait Perfectionism, Big Five Traits, Anxiety, Anger, and Social Desirability

Measures	Perfectionistic self-promotion	Nondisplay of imperfection	Nondisclosure of imperfection
Sample 3 ($N = 65$)			
Trait perfectionism			
Self-oriented perfectionism	.57***	.47***	.29*
Socially prescribed perfectionism	.47***	.20	.33**
Big Five			
Conscientiousness	.30*	.36**	.10
Openness	−.02	.11	.11
Agreeableness	−.11	.10	−.07
Extroversion	−.04	−.02	−.12
Emotional Stability	.04	−.04	−.01
Anxiety			
Total anxiety	.08	.27*	.15
Physiological anxiety	−.03	.00	.01
Worry/oversensitivity	.17	.42**	.11
Social concerns/concentration	.01	.18	.27*
Lie	.05	−.04	.04
Anger expression			
Anger control	−.21	−.20	−.22
Anger out	.07	.12	.19
Anger suppression	−.07	−.08	.30*
Social desirability	.06	−.04	−.08

* $p < .05$. ** $p < .01$. *** $p < .001$.

in childhood or adolescence (e.g., Keel, Leon, & Fulkerson, 2001). Use of this measure in clinically diagnosed eating disorders in adolescents would provide important information in this regard.

In addition to research on eating disorders, there has been much concern over understanding the development and maintenance of self-esteem among children (see Crocker & Wolfe, 2001). Given that perfectionistic self-presentation has been shown to be closely linked with appearance, achievement, and social self-esteem (Hewitt et al., 1995; 2003), it is important to determine whether perfectionistic self-presentation is relevant in the regulation of self-esteem concerns of children and to identify the etiological factors and processes that contribute to low self-esteem among children engaging in this extreme form of self-presentation.

Likewise, the PSPS–Jr can be used to extend the research on perfectionism and suicide among children. In an interpersonal model of suicidal behavior, Hewitt et al. (2006) proposed that interpersonal components of perfectionism, including perfectionistic self-presentation, lead to negative interpersonal consequences, including alienation and social disconnection, which then lead to suicidal behaviors. Because suicidal behaviors are clearly evident in children, especially among adolescents (e.g., McIntosh, 2000), the PSPS–Jr may be a particularly useful tool in evaluating this social disconnection model.

Finally, the PSPS–Jr should prove useful in clinical contexts. We have shown in adults that high levels of perfectionistic self-presentation, especially the nondisclosure facet, is predictive of not seeking help for problems and of interfering with the development and maintenance of the therapeutic relationship (Hewitt et al., 2003). As adolescents with significant problems are especially reticent to seek help (Boldero & Fallon, 1995), examination of the role of perfectionistic self-presentation in such issues may be enlightening (see Hewitt et al., 2008).

Certain limitations of the current work deserve mention. First, although our clinical samples consisted of children of a broad age range, our nonclinical group (i.e., Sample 2) consisted of adolescents of a relatively narrow age range. Further exploration of the PSPS–Jr with younger nonclinical samples could provide additional valuable evidence of the validity of inferences drawn with the scale scores and shed more light on the substantive nature of perfectionistic self-presentation in youths. Similarly, the continued evaluation of the reliability of the PSPS–Jr subscale scores is also an important avenue for future work. Although the reliability of the subscale scores is adequate, the coefficient alpha of the Nondisclosure of Imperfection subscale in Sample 2 was lower than expected. It is not clear why this was the case, especially given the higher alpha level of this subscale in Samples 1 and 3. The samples did differ mainly in terms of clinical status (i.e., clinical vs. nonclinical), but it is important to further explore the reliability of the Nondisclosure of Imperfection subscale scores in other nonclinical samples of youths.

Overall, this new measure appears to mirror its adult counterpart in many respects. For example, there is evidence that, consistent with our conceptualization of perfectionism involving self-presentational strategies, both the adult and adolescent measures show evidence of three facets of perfectionistic self-presentation, and both were developed specifically with age-appropriate items, samples, and measures. Thus, both the adult and child measures of perfectionistic self-presentation predict maladaptive outcomes and are associated with theoretically relevant outcomes, although there appear to be some differences in outcomes in children and adults as a function of perfectionistic self-presentation.

Consistent with claims that measures developed for and with adult samples may be inappropriate for children and adolescents (e.g., Bryant, 1982; Eiser & Morse, 2001) because of developmen-

tal differences, reading ability, and comprehension, the current measure represents an important tool specifically designed for use with children. For example, it might be used to assess developmental antecedents and, to the extent that there are differences between adults and children in terms of self-awareness, motivations for social acceptance, and potential outcomes, this age-appropriate measure may prove particularly useful.

In summary, the present findings provide evidence of the reliability of subscale scores and validity of the subscale score interpretations of a measure of perfectionistic self-presentation in children. Our findings suggest that perfectionistic self-presentation is an extreme impression management style that is not subsumed by trait personality factors, is associated only with theoretically relevant constructs, and, importantly, the PSPS–Jr scores are able to predict unique variance in indices of distress. Overall, the PSPS–Jr appears to be an important measure of the expression of perfectionistic behavior in interpersonal contexts relevant to youths.

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