

# The Child–Adolescent Perfectionism Scale: Development, Psychometric Properties, and Associations With Stress, Distress, and Psychiatric Symptoms

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## Abstract

There is growing interest in perfectionism among children and adolescents as well as growing interest in the measures designed to assess perfectionism in young people. The current article describes the development and psychometric characteristics of the Child–Adolescent Perfectionism Scale (CAPS), a measure that assesses self-oriented perfectionism and socially prescribed perfectionism. The results of three studies involving multiple samples are reported. The psychometric features of this measure are summarized, including extensive data that attest to the reliability and validity of the CAPS subscales. Normative data are also provided in Study 1. The results of Study 2 suggest that the academic behavior of perfectionistic students is motivated by a complex blend of factors that include a strong emphasis on introjected regulation in both self-oriented and socially prescribed perfectionism; however, there are key motivational differences between these perfectionism dimensions. Finally, Study 3 confirmed that self-oriented and socially prescribed perfectionism are associated with various indices of stress, distress, and maladjustment. Collectively, our results support the use of the CAPS and the notion that vulnerable children and adolescents who are perfectionistic are under substantial pressure to meet expectations. The assessment and theoretical implications of these results are discussed.

## Keywords

self-oriented perfectionism, socially prescribed perfectionism, anxiety, depression, stress, motivation, psychopathology

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Flett and Hewitt (2014) noted in their article on ways to prevent perfectionism among young people that in many respects, the existing literature on perfectionism in children and adolescents parallels the general research literature on perfectionism. For instance, just as it is the case that there has been an exponential increase in perfectionism research in general over the past three decades, there has also been a substantial increase in research on perfectionism in children and adolescents. This research has yielded several important findings. For instance, it is now well established that perfectionism in younger people is a risk factor for a range of adjustment difficulties, including anxiety, depression, and suicide ideation (e.g., Essau, Leung, Conrads, Cheng, & Wong, 2008; Flett, Coulter, Hewitt, & Nepon, 2011; Hewitt, Newton, Flett, & Callander, 1997; Roxborough et al., 2012; Stornelli, Flett, & Hewitt, 2009). Other research has shown that perfectionism often accompanies some exceptionally challenging conditions—that is, a subset of perfectionists has been identified among samples of young people with attention deficit hyperactivity disorder (Martel, Goth-Owens, Martinez-Torteya, & Nigg, 2010), autism spectrum disorders (Greenaway & Howlin, 2010), and obsessive-compulsive disorder (Soreni et al., 2014). There is growing recognition among educators and school psychologists of the complications and difficulties for children with these disorders and who are also perfectionistic. Moreover, in certain key educational contexts, perfectionism can undermine learning and performance (see Flett, Hewitt, Su, & Flett, 2016).

Perhaps most intriguing and most troubling is the sheer prevalence of perfectionism among children and adolescents. It has been estimated that 25% to 30% of young people are characterized by maladaptive perfectionism (see Hawkins, Watt, & Sinclair, 2006; Rice, Ashby, & Gilman, 2011). Sironic and Reeve (2015) conducted the most comprehensive study in this area. They had 938 Australian adolescents complete three perfectionism measures, including the Child–Adolescent Perfectionism Scale (CAPS). They found that about three in 10 adolescents had maladaptive perfectionism, whereas another large proportion of adolescents had milder forms of perfectionism.

Why is perfectionism so prevalent? And what are the costs and consequences of this perfectionism? Advances in our understanding of perfectionism in children and adolescents are particularly likely if research is based on multidimensional measures tailored specifically to young people. One measure that has been used extensively is one of the ones mentioned above—the CAPS. The CAPS has been included in more than 50 published studies although the article describing it has remained unpublished until now. Accordingly, in the current article, we provide an updated account of the initial development of the CAPS as well as some results associated with the use of this measure. We provide extensive information about the psychometric characteristics (i.e., reliability, validity, factor structure, and norms) of the CAPS along with research that supports its use. We provide detailed psychometric information in the hope that the CAPS will be incorporated into assessments conducted by school psychologists, counselors, and clinicians.

The CAPS is based on the Multidimensional Perfectionism Scale (MPS) developed by Hewitt and Flett (1991). Whereas the MPS has three dimensions (i.e., self-oriented, other-oriented, and socially prescribed perfectionism), the CAPS has two dimensions: (a) self-oriented perfectionism (i.e., exceptionally high personal standards and being driven to achieve these standards) and (b) socially prescribed perfectionism (i.e., the belief or perception that other people demand perfection from the self). Other-oriented perfectionism was not included due to a lack of developmental information on precisely when young perfectionists begin to expect perfection from other people. As was the case with the MPS, the CAPS was constructed so that its item content has motivational and cognitive referents that focus primarily on perfectionistic standards that come from the self or others, and there are few scale items that assesses self-evaluations in terms of the ability or inability to attain these standards.

Three studies are described below. The initial development of the CAPS is summarized in Study 1 along with psychometric information (i.e., factor structure and descriptive statistics, including normative data from seven samples). Study 2 examined the motivational and achievement factors underscoring perfectionism in adolescents. Here, we consider the notion that self-oriented perfectionism is not truly volitional in a self-determined sense. Finally, Study 3 was conducted to illustrate the relevance of a multidimensional approach in terms of how perfectionism relates to indices of stress and maladjustment.

## Study 1

### Method

#### Participants

*Sample 1.* Our first sample consisted of school children from various Toronto area schools. We had 247 children and adolescent participants (112 boys, 135 girls) from Grades 3 to 12. Their mean age was 13.28 years ( $SD = 3.23$ ).

*Sample 2.* Our second sample was compiled by combining the data from various studies conducted on children and adolescents from the Toronto area. It consisted of 796 participants (360 boys, 434 girls, two unknown) in elementary school or high school. Their mean age was 13.45 years ( $SD = 4.05$ ).

*Sample 3.* Our third sample consisted of 553 adolescents (56.2% girls) who had participated in the McMaster Teen Study (see Asseraf & Vaillancourt, 2015). Our focus here was on evaluating the long-term temporal stability of the CAPS dimensions over several years. Participants were included if they had two or more CAPS assessments based on annual assessments conducted over 6 years. At Time 1, participants were on average 13.02 years old ( $SD = 0.38$ ).

*Additional samples.* We also report the basic descriptive results for the CAPS from several others samples, including a heterogeneous clinical sample of children and adolescents that combines the psychiatric patients and the cancer survivor patients first described in the Hewitt et al. (2011) article (see Samples 1 and 3). Ages ranged from 8 to 20 years with a mean age of 13.5 years. There are also three samples of students from China (218 Grade 5 students, 172 Grade 8 students, and 242 high school students). All students were from schools located in Anshan in Northeast mainland China. The respective mean ages of the participants in the three samples were 12.19, 14.17, and 17.98 years. We also provide the descriptive statistics for a fourth sample from a forthcoming study that was conducted with 283 high school students (142 girls, 141 boys) from Israel. Their mean age was 16.40 years ( $SD = 1.57$ ). The fifth sample consisted of 153 high school students (86 girls, 67 boys) from Moscow, Russia. Their mean age was 15.00 years ( $SD = 1.05$ ).

It should be noted that the CAPS was administered to participants in China, Israel, and Russia after it was translated and back-translated in accordance with established practices.

*Procedure.* The participants in our initial sample completed a 31-item version. The five response options were “false—not at all true of me,” “mostly false,” “neither true nor false,” “mostly true,” and “very true of me.” The instructions were kept simple and brief. These instructions can be found in the appendix, which contains the final 22-item version. Note that the items were written with a simple sentence structure. Standard formulae (e.g., Flesch, 1979; Gunning, 1952) for reading-level analyses of the items and instructions established that a Grade 3 reading level is required.

## Results

*Development and refinement of the CAPS.* Initially, we created an item pool of 60 items. These items were based on descriptions of perfectionists in terms of self-oriented and socially prescribed perfectionism, as well as re-wording of certain items from the adult version, the MPS. The items were then rated on 7-point scales by a pool of five graduate students. The items were rated in terms of their relevance, clarity of wording, and susceptibility to social desirability bias following a brief lecture on the characteristics of appropriate items. These ratings were used to reduce the number of items to 31 items (17 self-oriented items and 14 socially prescribed items).

### *Factor analysis and other psychometric results*

*Sample 1.* A factor analysis was conducted on the item responses to the 31-item version. The items were first reduced to 24 items by examining the frequencies of endorsements, as suggested by Jackson (1970); items are preferred if they do not have too few or too many extreme endorsements. An exploratory principal-components factor analysis was then performed, and it yielded five factors with eigenvalues exceeding unity. Cattell (1966) proposed the scree test as an alternative method of determining the number of factors to retain. An examination of the plot of eigenvalues revealed that the scree appeared to begin at the third factor, thus suggesting that two factors should be retained.

The data were re-analyzed by specifying a two-factor solution with varimax rotation. The estimate of standard error method was used in determining the statistical significance of factor loadings (Harman, 1976). The results provided general evidence of factorial validity. The first factor represented socially prescribed perfectionism and accounted for 28.7% of the variance. Ten items reflecting socially prescribed perfectionism and three items reflecting self-oriented perfectionism loaded .35 or higher on this factor. The latter three items also loaded significantly on the second factor. This second factor accounted for 12.2% of the variance. This factor represented self-oriented perfectionism. It consisted of 12 items reflecting self-oriented perfectionism. No items reflecting socially prescribed perfectionism loaded significantly on this factor.

We decided at this point to reduce the CAPS to 22 items (12 self-oriented items, 10 socially prescribed items). The revised scales had adequate internal consistency for measures in the preliminary stages of development (Nunnally, 1978). The alpha coefficient (Cronbach, 1951) for the self-oriented scale was .85. Item-total correlations ranged from .36 to .76. The alpha coefficient for the socially prescribed perfectionism scale was .81. The item-total correlations ranged from .28 to .59.

*Sample 2.* Similar procedures were used to examine the item responses to the 22-item version from the participants in our large combined sample. Examination of the scree plot suggested the possibility of three factors. We re-analyzed the data with a forced three-factor solution, and this analysis yielded an interesting pattern (see Table 1). The first factor consisted of the 10 items comprising the socially prescribed perfectionism dimension with significant loadings ranging from .43 to .72. It had an eigenvalue of 6.45 and accounted for 29.32% of the variance. The second factor consisted of the self-oriented perfectionism items. The only two items that did not load significantly were two items that were reverse-worded (Items 9 and 18). The significant loadings on the other items ranged from .46 to .69. It had an eigenvalue of 2.17 and accounted for 9.88% of the variance. The third factor was interpreted as an item wording direction factor; it is comprised largely of the three CAPS items worded in the negative direction (i.e., nonperfectionism). Significant factor loadings for this factor ranged from .40 to .65. The eigenvalue was 1.38, and it accounted for 6.27% of the variance.

Internal consistency analyses yielded alphas of .81 for self-oriented and .84 for socially prescribed perfectionism in our second sample. The correlation between the two factors was .53.

**Table 1.** Factor Loadings for CAPS Items Following Varimax Rotation.

Item	Factors		
	Factor 1 (Social)	Factor 2 (Self)	Factor 3 (Wording)
I try to be perfect in everything I do	.02	.69	.20
I want to be the best at everything I do	.05	.63	.16
My parents don't always expect me to be perfect in everything I do <sup>a</sup>	.50	-.19	.40
I feel that I have to do my best all the time	.23	.60	.11
There are people in my life who expect me to be perfect	.67	.09	.14
I always try for the top score on a test	-.09	.58	.22
It really bothers me if I don't do my best all the time	.16	.65	-.04
My family expects me to be perfect	.72	.13	.29
I don't always try to be the best <sup>a</sup>	.02	.29	.65
People expect more from me than I am able to give	.66	.03	-.27
I get mad at myself when I make a mistake	.29	.51	-.30
Other people think I have failed if I do not do my very best all the time	.55	.17	-.20
Other people always expect me to be perfect	.71	.17	.19
I get upset if there is even one mistake in my work	.37	.56	-.07
People around me expect me to be great at everything	.65	.26	.13
When I do something, it has to be perfect	.42	.56	.11
My teachers expect my work to be perfect	.43	.29	.07
I do not have to be the best at everything I do	.09	.15	.65
I am always expected to do better than others	.55	.31	.10
Even when I pass, I feel that I have failed if I didn't get one of the highest marks in the class	.39	.48	-.01
I feel that people ask too much of me	.66	.10	-.17
I can't stand to be less than perfect	.43	.46	.12
Eigenvalue	6.45	2.17	1.38
Percentage of variance	29.3	9.9	6.3

Note. Based on the responses of 785 participants. CAPS = Child-Adolescent Perfectionism Scale.

<sup>a</sup>Reverse-keyed items.

Table 2 summarizes the means, standard deviations, and internal consistencies for the CAPS subscales for the first two samples. It also includes the descriptive statistics for our clinical sample as well as five samples from outside Canada. Information from other published work is also represented in Table 2 to facilitate comparisons. Here, it can be seen that although levels of internal consistency were generally acceptable, lower levels of internal consistency were found in certain samples, thus reiterating the need to assess measurement invariance across different populations.

*Sample 3: Test-retest reliability.* Analyses indicated that the 1-year test-retest reliabilities were .65 for self-oriented perfectionism and .59 for socially prescribed perfectionism (based on 466 participants at Time 2). The 3-year test-retest reliabilities were .51 for self-oriented perfectionism and .35 for socially prescribed perfectionism (based on 419 participants at Time 4). The 5-year test-retest reliabilities were .40 for self-oriented perfectionism and .36 for socially prescribed perfectionism (based on 405 participants at Time 6). Typically, the test-retest reliabilities

**Table 2.** Means, Standard Deviations, and Internal Consistencies of the CAPS Perfectionism Dimensions.

Sample	n	Self-oriented			Socially prescribed		
		M	SD	$\alpha$	M	SD	$\alpha$
Canada							
Combined sample	796	36.31	8.82	.81	26.18	8.51	.84
Clinical sample	279	34.41	8.83	.81	24.27	8.30	.87
China (Grade 5)	218	41.62	7.82	.71	35.99	6.63	.68
China (Grade 8)	172	38.58	8.36	.78	31.63	7.12	.71
China (Grade 10/11)	242	38.93	8.55	.80	30.81	7.38	.74
Advanced	111	37.85	8.16	.78	30.50	6.96	.71
Non-advanced	131	39.85	8.79	.81	31.08	7.73	.77
Israel	283	38.31	8.09	.82	26.30	7.82	.89
Russia	153	39.42	5.97	.68	32.03	6.35	.77

Note. Higher scores reflect greater perfectionism. CAPS = Child-Adolescent Perfectionism Scale.

over a 1-year interval were much higher as participants got older. For instance, the 1-year test reliabilities for the Year 5 to Year 6 interval were .80 for self-oriented perfectionism and .70 for socially prescribed perfectionism.

## Discussion

Overall, the results of Study 1 provided initial support for the psychometric properties of the CAPS and the notion that perfectionism in young people is a multidimensional construct. The factor structure of the CAPS was explored in two separate samples. Initial analyses revealed the presence of two factors resembling self-oriented perfectionism and socially prescribed perfectionism and supported reducing the scale to 24 items. However, three items designed to tap self-oriented perfectionism loaded complexly on both factors. Self-oriented items that loaded on both factors were retained because of their face validity and because they seem to tap relevant perfectionism content. Two other items were removed though based on their relatively low item-total correlations.

As noted above, the revised 22-item scale was then administered to a large sample of children and adolescents. Some authors have conducted factor analyses with the 22-item version and reported evidence of two factors representing self-oriented and socially prescribed perfectionism (e.g., Bas & Siyez, 2010; Bento, Pereira, Saraiva, & Macedo, 2014; Sironic & Reeve, 2015). In contrast, other investigators have used more sophisticated statistical techniques (i.e., confirmatory factor analysis) and suggested that the CAPS has three factors—one socially prescribed perfectionism factor and two self-oriented perfectionism factors. McCreary, Joiner, Schmidt, and Jalongo (2004) were the first researchers to suggest the CAPS consists of three factors based on their analysis of items responses of Black children from the Baltimore area. Unfortunately, their results are questionable because they used a non-standard, unique version of the CAPS that was altered in two significant respects. Specifically, five CAPS items were re-worded by these authors, but more problematic was a change to the response key so that four options were provided (*very true*, *sort of true*, *a little true*, and *not at all true*), and the response key no longer resembled the standard 5-point CAPS response key shown in the appendix. One significant concern with this 4-point option is that children may find it difficult to distinguish the “sort of true” and “a little true” options.

Subsequently, O'Connor, Dixon, and Rasmussen (2009) evaluated whether this three-factor solution described by McCreary et al. (2004) could be replicated in separate samples of 624 and

737 adolescents from Scotland. They concluded that the three-factor solution was a poor fit to their data. They then described their own three-factor solution with a different set of 14 items. The negatively worded CAPS items were dropped as well as other items that loaded complexly with cross-loadings on the factors. The factors were as follows: (a) three items deemed to reflect self-oriented perfectionism striving, (b) four items deemed to reflected self-oriented critical perfectionism, and (c) a seven-item socially prescribed perfectionism subscale. These factors were found in both samples. We believe this briefer version is problematic for assessment purposes because there are no reverse-keyed items. We also believe that the self-oriented critical perfectionism factor is open to other interpretations. The four items reflect reactions and responses to imperfection and failure—only one item has wording that openly reflects self-criticism due to our initial decision to assess perfectionism *per se* and not assess self-evaluations related to whether perfection has been attained.

We have opted to retain all 22 CAPS items and treat the inventory as having two dimensions. This decision is based on several considerations. First, extensive information has now been amassed and, overall, it supports the use of the 22-item version, including the broad psychometric results and normative information provided in this article. Second, we conceptually regard self-oriented perfectionism as a unidimensional entity that combines many elements that include having exceptionally high standards, being driven to achieve these standards, and responses to outcomes. Finally, for assessment purposes, we believe it is important to include some reverse-worded items to be able to detect response biases or careless responding and hopefully ensure that children and adolescents are carefully reading and understanding the CAPS items.

As seen in Table 2, our results across several samples indicate that both the self-oriented perfectionism subscale and the socially prescribed perfectionism subscale had adequate internal consistency. The levels of internal consistency varied from across samples to some degree, but in most instances, the results suggested good internal consistency according to the criterion suggested by Nunnally (1978). Analyses of the data from the long-term longitudinal study showed that the CAPS subscales also have adequate temporal stability. The test–retest reliabilities after 1 year were quite comparable with those reported by other investigators for intervals substantially less than a year (e.g., Bento, Pereira, Saraiva, & Macedo, 2014; Damian, Stoeber, Negru, & Baban, 2013). Not surprisingly, the degree of temporal stability decreased substantially in our study as a function of there being longer time intervals between assessments, but this should not be interpreted as problematic. Recent longitudinal research on the temporal stability of perfectionism has shown that there is substantial heterogeneity within samples in terms of the developmental course, and different developmental trajectories can be identified at the person level (e.g., Herman, Wang, Trotter, Reinke, & Ialongo, 2013). Thus, variations in participants' responses over repeated assessments and lengthier time intervals do not simply reflect the properties of the questionnaire being used.

Finally, it is worth reiterating that extensive normative information from various samples was summarized in Table 2. We did not conduct statistical tests comparing the means across the samples because the participants in the various samples were not matched on key demographic characteristics. Still, a few points merit discussion. For instance, the higher levels of perfectionism that were found among the participants from China and Russia are in keeping with descriptions of the pressures to be perfect that seemingly face children and adolescents in these countries.

Second, as seen in Table 2, the levels of perfectionism found in our heterogeneous clinical sample were not elevated relative to the levels of perfectionism found in our other samples. However, the CAPS means should be considerably higher when there is an explicit focus on diagnosed patients with disorders that have historically been linked with elevated perfectionism. The available evidence supports this claim. For example, Castro et al. (2004) reported that 74 adolescent girls from Barcelona who were diagnosed with anorexia nervosa had a mean score of

44.5 on self-oriented perfectionism and 27.3 on socially prescribed perfectionism. The level of self-oriented perfectionism is clearly elevated. Similarly, Huggins, Davis, Rooney, and Kane (2008) reported that 50 adolescents from Perth with a depression diagnosis had mean scores of 41.12 on self-oriented perfectionism and 34.18 on socially prescribed perfectionism. These mean scores are also quite elevated relative to the means displayed in Table 2.

## Study 2

Study 2 was conducted to examine the association between perfectionism and motivation in academic learning situations. One hypothesized distinction between socially prescribed and self-oriented perfectionism is their links with motivational orientations (see Hewitt & Flett, 1991). Socially prescribed perfectionism is regarded as an amotivational state associated with feelings of helplessness and being externally controlled. Self-oriented perfectionism was described initially as reflecting greater sense of self-determination and personal control (see Hewitt & Flett, 1991). However, this view has changed somewhat over the past two decades; there is now a greater emphasis on seeing extreme self-oriented perfectionists as people who are compulsively driven in ways that do not suggest that they are entirely self-determined individuals. This is perhaps best reflected by the observation made by Albert Ellis (2002) who noted that extreme perfectionists must be absolutely perfect; that is, they do not just want to be perfect, they have to be perfect. If so, this has clear implications for the hypotheses and anticipated results of the current study and the correlates of self-oriented perfectionism. A key element of the self-determination model (see Deci & Ryan, 1987) is that it is important to distinguish intrinsic self-determination from a more introjected form of motivation and self-regulation that reflects an internally controlled focus (i.e., internal pressure).

The current research focused on the reasons for academic behavior. We used a measure developed by Ryan and Connell (1989). They tested a model of locus of causality that views the autonomy dimension as a gradient that ranges from external reasons for action, introjected reasons for action, actions stemming from identification, and intrinsic reasons for action. External reasons for behavior include fear of punishment and the desire to appease an external authority. Introjection reasons reflect “. . . internal, esteem-based pressures to act, such as avoidance of guilt and shame or concerns about self- and other-approval” (Ryan & Connell, 1989, p. 750). More generally, introjection is viewed as a defense mechanism that involves the incorporation of other people’s standards into self-standards. Identification is more autonomous and involves actions that stem primarily from personal goals and values. Finally, intrinsically motivated behavior is performed simply because the behavior is fun and enjoyable. Ryan and Connell (1989) confirmed the presence of the autonomy gradient and demonstrated that the presence of external and introjected reasons for behavior predicted negative outcomes such as anxiety and denial, whereas identification and intrinsic reasons were more closely linked with positive outcomes.

In the present study, we focused on the reasons behind academic behavior because perfectionism is typically regarded as an achievement-based construct. We expected that external reasons and introjected reasons would underscore socially prescribed perfectionism, whereas self-oriented perfectionism would be associated with both self-determined and introjected reasons for behavior.

Another goal of Study 2 was to obtain some additional evidence of the concurrent and discriminant validity of the two CAPS subscales by utilizing a modified version of the Ryan and Connell (1989) survey. Our respondents also indicated the extent to which their behaviors reflected personal and parental desires for perfection. Finally, we evaluated the external focus of socially prescribed perfectionism by also assessing trait locus of control.



**Table 3.** Correlations Between Perfectionism and Motivation Measures.

Reason and motivation measures	Perfectionism measures				
	Self-perf	Social perf	Self-desire	Mother's desire	Father's desire
Identification	.37**	-.05	.26*	.01	-.07
Intrinsic	.42**	-.05	.40**	-.03	-.05
Introjection	.62**	.37**	.57**	.45**	.39**
External	.16	.27**	.15	.34**	.32**
Locus of control	.04	-.37**	.09	-.25*	-.35*
Enjoyment	.42**	.05	.35**	.17	.13
Effort	.54**	.26*	.39**	.18	.12

Note. Based on the responses of 98 participants (49 boys, 49 girls).

\* $p < .05$ . \*\* $p < .01$ .

## Method

**Participants.** Our participants were 98 high school students (49 boys, 49 girls) from two secondary schools in Toronto. Their mean age was 16.63 years ( $SD = 1.03$ ).

**Materials and procedure.** In addition to the CAPS, participants completed three measures from Ryan and Connell (1989) and a general measure of locus of control:

**School Enjoyment Scale.** The three-item measure of school enjoyment requires 4-point ratings of items such as “I enjoy doing my classwork.” It has an internal consistency of .74.

**Effort rating.** The effort measure was a one-item index (i.e., “I try very hard to do well in school”).

**Academic Reasons Survey (ARS).** The ARS has four probe questions (e.g., “Why do you do your homework?” “Why do you try to do well in school?”). Respondents indicate their degree of agreement to various reasons reflecting intrinsic factors (e.g., “because it is fun,” “because I enjoy it”), identification (e.g., “because I want to understand the subject”), introjection (e.g., “because I want the teacher to think I am a good student,” “because I will feel bad about myself if I do not”), and external factors (e.g., “because I will get in trouble if I do not,” “because that is the rule”). Response options range from *not at all true* to *very true*. We added three additional reasons for each probe question—“because I want to be perfect,” “because my mother expects me to be perfect,” and “because my father expects me to be perfect.”

**Nowicki–Strickland Locus of Control Scale (NSLCS;** Nowicki & Strickland, 1973) is a 21-item measure of general beliefs about whether the locus of control is internal to the self or external to factors in the environment. The measure is reliable and valid (see Nowicki & Strickland, 1973).

## Results

**Perfectionism and school enjoyment.** Correlations involving the CAPS dimensions are displayed in Table 3. Self-oriented perfectionism was correlated positively with school effort and school enjoyment. Greater effort was also associated with socially prescribed perfectionism, but there was no link between socially prescribed perfectionism and school enjoyment.

*Perfectionism and autonomy-related reasons for achievement behavior.* As can be seen in Table 3, self-oriented perfectionism was associated significantly with identification, intrinsic factors, and introjection with there being a particularly robust association with the introjection factor. Socially prescribed perfectionism was associated with introjection and external reasons and an external locus of control.

The personal desire for perfection was also associated with higher levels of enjoyment and effort, but it was also associated with introjected reasons for academic behavior. It was similar to the CAPS self-oriented dimension in that links were also found between this factor and more self-determined academic reasons (i.e., intrinsic and identification reasons). Ratings of maternal and paternal desires for perfectionism were associated with external reasons, but there were also strong links between the parental factors and reasons reflecting introjection.

*Concurrent and discriminant validity.* Self-oriented perfectionism was correlated highly with the personal desire for perfection ( $r = .64, p < .01$ ). A smaller correlation was obtained between self-oriented perfectionism measure and the mother's desire for perfection ( $.31, p < .01$ ). The correlation with the father's desire for perfection was not significant.

As expected, socially prescribed perfectionism was associated strongly with reports of parental desires for perfection. Socially prescribed perfectionism was also associated to a lesser extent with the self-desire for perfection ( $r = .28, p < .01$ ).

## Discussion

Study 2 examined perfectionism and the stated reasons for academic behavior to better understand how the CAPS relates to motivational orientations. Overall, our results indicated that introjection was the primary factor that motivated academic behavior for adolescents with high levels of self-oriented and socially prescribed perfectionism. Our results suggest an introjected need for approval while avoiding shame and disapproval is a salient motivator of perfectionism among younger people.

Additional findings highlight some key differences between the perfectionism dimensions. Whereas self-oriented perfectionism is linked with academic behavior underscored by a need for self-determination (i.e., identification and intrinsic reasons), socially prescribed perfectionism has expected links with extrinsic reasons. Overall, self-oriented perfectionism seems to be a complex dimension that involves elements of both self-determination and an ego-related concern about obtaining the approval of self and others. The motivational factors that are most predominant or salient at a particular time should vary according to the situational context as well as feelings of self-confidence and the amount of ego threat that is present. In contrast, socially prescribed perfectionism consists primarily of an extrinsic focus on the evaluative reactions and control exhibited by others with a substantial element of introjection also included.

We also found in Study 2 that self-oriented perfectionists tended to report higher levels of school enjoyment and effort. This is in keeping with the striving and positive engagement of self-oriented perfectionists when they are confident of anticipated outcomes. In contrast, socially prescribed perfectionism was not associated with higher school enjoyment; this is understandable given the pressure inherent in demands that are seen as coming from outside the self.

Study 2 also yielded further evidence of the validity of the CAPS subscales. As expected, scores on the CAPS self-oriented scale were correlated substantially with ratings of the personal desire for perfection. Socially prescribed perfectionism was correlated with student reports of parental desires for perfection, and it was also associated but to a much lesser extent with the personal desire for perfection.

We now turn to Study 3, which focused primarily on the role of perfectionism in stress and various forms of maladjustment. The results for four samples are reported.

## Study 3

### Method

**Participants.** The participants in Sample 1 were the 242 high school students from China described earlier in Study 2. Overall, 131 students were from a regular high school whereas 111 were from an academically advanced high school. School placement was based on past academic performance. Their mean age was 17.96 years ( $SD = 1.36$ ).

The participants in Sample 2 were 107 school children (45 boys, 62 girls) from Grade 8 classes in Barrie Ontario. Their mean age was 13.47 years ( $SD = 0.90$ ).

The participants in Sample 3 were 65 post-treatment adolescent cancer survivors (34 boys, 31 girls) from pediatric hematology/oncology programs at two university hospitals in British Columbia, Canada. They were predominantly Caucasian (95%) with a mean age of 15.4 years ( $SD = 2.6$ ). This sample was first described in Hewitt et al. (2011).

The participants in Sample 4 were 131 high school students (59 boys, 72 girls) from a secondary school in Toronto. Their mean age was 15.96 years ( $SD = 0.95$ ).

Unique measures administered along with the CAPS to participants are listed below

### Materials and procedures

**Sample 1.** Participants from China completed the 16-item Educational Stress Scale for Adolescents (ESSA; Sun, Dunne, Hou, & Xu, 2011). Higher scores on this measure reflect greater stress. This measure yields a total score and five subscale scores: (a) Pressure From Study (e.g., I feel a lot of pressure in my daily studying), (b) Workload (e.g., I feel that there are too many tests/exams in the school), (c) Worry About Grades (e.g., I feel that I have disappointed my teacher when my test/exam results are not ideal), (d) Self-Expectation (e.g., I feel stressed when I do not live up to my standards), and (e) Despondency (e.g., I always lack confidence with my academic scores). Extensive psychometric information is summarized in the scale development paper.

**Sample 2.** These participants from Ontario completed the Basic Personality Inventory (BPI; Jackson, 1989). The BPI is a 220-item broad-based measure of self-reported psychopathology. It has 11 subscales that assess hypochondriasis, depression, denial, interpersonal problems, alienation, persecutory ideation, anxiety, thinking disorder, impulse expression, social introversion, self-depreciation, and deviation. Numerous studies have attested to the instrument's reliability, validity, and factor structure (e.g., Austin, Lescheid, Jaffe, & Sas, 1986; Holden, Reddon, & Jackson, 1983). We focused primarily on the results for the three BPI summary scores (i.e., psychiatric symptoms, depression, and social symptomatology).

**Sample 3.** These cancer survivors completed the Children's Social Desirability Scale (Crandall, Crandall, & Katkovsky, 1965). They also completed the 120-item Adolescent Personality Style Inventory (APSI; Lounsbury et al., 2003), which taps the facets of the five-factor model (i.e., conscientiousness, openness to experience, agreeableness, extraversion, and emotional stability). Internal consistency estimates range from .77 to .82 (Lounsbury et al., 2003). The APSI Conscientiousness scale is correlated with the 16PF Perfectionism subscale (see Lounsbury et al., 2003).

**Sample 4.** The Toronto area high school students completed the Perfectionism subscale of the Eating Disorders Inventory (EDI; Garner, Olmstead, & Polivy, 1983). This well-known six-item scale is a unidimensional measure. We reversed the typical scoring direction so that higher scores reflect greater perfectionism. This measure has mixed content that taps both the self-oriented and parental expectations. They also completed the Janis-Field Feelings of Inadequacy Scale (Janis & Field, 1959). This is a 23-item measure of social self-esteem. Higher scores reflect higher

social self-esteem. This was supplemented with a six-item Appearance Self-esteem scale developed by Pliner, Chaiken, and Flett (1990). A typical item is, "How often are you dissatisfied with the way you look?" Higher scores reflect greater appearance self-esteem. This scale is correlated significantly with social self-esteem in adults. Finally, they also completed the 26-item Eating Attitudes Test (EAT; Garner & Garfinkel, 1979), which assesses pathological concern about eating and body weight. Sample items include, "I stay away from eating when I am hungry" and "I have the urge to vomit after meals." This inventory assesses excessive tendencies toward dieting, bulimia, and over control. Higher scores on this test reflect better adjustment.

## Results

**Sample 1.** The correlations between the CAPS dimensions and the ESSA measures are shown in Table 4. Self-oriented and socially prescribed perfectionism were both associated with overall educational stress. Examination of the ESSA subscales showed that self-oriented perfectionism was associated significantly with self-expectations, worry about grades, despondency, and pressure from study. Socially prescribed perfectionism was associated with pressure from study, worry about grades, self-expectations, and despondency.

We also separately computed the correlations for the students in the advanced versus regular high school. Although the pattern of correlations was generally similar across the subsamples, it is worth noting that the correlation between self-oriented perfectionism and worry about grades was significantly higher in the advanced school participants versus regular school participants ( $r$ s of .39 vs. .22). However, the association between self-oriented perfectionism and despondency was higher and significant among the less academically successful students versus the more successful students ( $r$ s of .25 and .12).

**Sample 2.** As for the Sample 2 results, regarding self-oriented perfectionism, the only significant associations with the three BPI summary scores was a link with fewer social symptoms. The only associations of note involving the specific BPI subscales were the associations that self-oriented perfectionism had with *less* alienation and *less* self-depreciation.

In contrast, socially prescribed perfectionism was associated positively with overall psychiatric symptoms ( $r = .31, p < .01$ ) and with depression ( $r = .29, p < .01$ ). It was not associated significantly with the overall social symptomatology; however, there was a significant positive link with the BPI Social Introversion subscale. Importantly, neither Perfectionism subscale was correlated significantly with the subscale tapping denial, suggesting that the scale items are not contaminated substantially by a tendency to engage in defensive responding.

**Sample 3.** As indicated in Table 4, in our sample of adolescent cancer survivors, the social desirability measure was not correlated with the CAPS subscales. Self-oriented perfectionism was associated significantly with conscientiousness and openness. There were no significant correlations between socially prescribed perfectionism and the facets of the five-factor model. Although social desirability was unrelated to self-oriented perfectionism, it was associated with conscientiousness ( $r = .35, p < .01$ ), thus indicating that they are key differences between conscientiousness and self-oriented perfectionism among adolescents coping with illness.

**Sample 4.** As expected, the CAPS measures were robustly correlated with EDI perfectionism scores. The respective correlations between self-oriented perfectionism and the EDI measure were .41 for girls and .72 for boys. The correlations between socially prescribed perfectionism and the EDI measure were .45 for girls and .55 for boys (all  $ps < .01$ ).

The correlations shown in Table 4 are listed separately for boys and girls given broad evidence of sex differences in the relevance of eating and appearance concerns. The main conclusion that

**Table 4.** Correlations With Perfectionism Dimensions in Study 3 Samples.

Self-concept measure	Perfectionism dimension		
	Self	Social	EDI perf
Sample 1			
Total ESSA Stress	.30**	.28**	—
Pressure from study	.15*	.30**	—
Workload	.10	.06	—
Worry about grades	.29**	.28**	—
Self-expectations	.38**	.21**	—
Despondency	.20**	.15*	—
Sample 2			
BPI summary score			
Psychiatric symptoms	.01	.31**	—
Depression	-.14	.29**	—
Social symptomatology	-.24*	.17	—
Sample 3			
Conscientiousness	.35**	-.03	—
Openness	.29**	.11	—
Agreeableness	-.01	-.11	—
Extraversion	.18	.01	—
Emotional stability	-.16	-.02	—
Social desirability	-.08	-.05	—
Sample 4			
Boys			
Social self-esteem	-.16	-.49**	.25
Appearance self-esteem	-.02	-.38**	.21
Eating attitudes	-.25	-.22	.28*
Girls			
Social self-esteem	-.17	-.31**	.24**
Appearance self-esteem	-.24*	-.28*	.08
Eating attitudes	-.08	-.30*	.19

Note. Based on the responses of 242 participants (111 advanced school students, 131 regular school students) in Sample 1, 107 students (45 boys, 62 girls) in Sample 2, 64 cancer survivors in Sample 3, and 131 participants (59 boys and 72 girls) in Sample 4. EDI = Eating Disorders Inventory; ESSA = Educational Stress Scale for Adolescents; BPI = Basic Personality Inventory.

\* $p < .05$ . \*\* $p < .01$ .

can be drawn from our pattern of correlations is that socially prescribed perfectionism in both girls and boys was associated with lower social self-esteem, lower appearance self-esteem, and maladaptive eating attitudes.

**Hierarchical regression analyses.** A series of hierarchical regression analyses was conducted with the data from Sample 4 to evaluate the incremental validity of the CAPS subscales by predicting beyond the EDI Perfectionism scale. In each analysis, the EDI perfectionism measure was entered first followed by the CAPS measures in a second predictor block.

The EDI perfectionism measure did not significantly predict appearance self-esteem. In contrast, the CAPS predictor was marginally significant and accounted for 4% of the variance,  $F$  change = 3.03,  $p < .06$ . Socially prescribed perfectionism was significant within the block,  $F = 5.59$ ,  $p < .05$ .

The EDI and the CAPS predictor blocks both predicted a significant amount of unique variance in levels of social self-esteem, accounting respectively for 6% and 8% of the variance. Once again, the socially prescribed dimension was the CAPS measure that was significant,  $F = 10.93$ ,  $p < .01$ .

Finally, the analysis conducted on total EAT scores was the only analysis in which the CAPS predictor block was not significant. However, the EDI perfectionism measure accounted for 4% of the variance.

## Discussion

Study 3 yielded additional validity in terms of the links that the CAPS measures had with EDI perfectionism scores and the association between self-oriented perfectionism and conscientiousness in Sample 3. Although an association between socially prescribed perfectionism and neuroticism might have been expected, the data from Sample 3 further highlight the uniqueness of perfectionism in that it is not redundant with the broad traits tapped by the five-factor model. Importantly, the results from this sample also suggested that the CAPS dimensions are not contaminated by social desirability bias.

Study 3 was designed primarily to evaluate the extent to which self-oriented and socially prescribed perfectionism were associated with indices of stress and maladjustment. The results from our sample of Chinese participants showed that both self-oriented and socially prescribed perfectionism are associated significantly with self-reported educational stress and this was due primarily to the links that existed between both perfectionism dimensions and worry about grades, self-expectations, and despondency. There was also some evidence of differences between the two CAPS dimensions. That is, stress due to self-expectations had a stronger association with self-oriented perfectionism, but pressure from study was associated with socially prescribed perfectionism, and it was not associated with self-oriented perfectionism. These results are generally in keeping with the theme that perfectionistic students in China are under considerable stress.

When it comes to self-reported psychiatric symptoms, our results indicate that socially prescribed perfectionism is clearly the more deleterious dimension as shown by its link with psychiatric symptoms and depression. Self-oriented perfectionism was seemingly adaptive in terms of its link with reduced self-reported social symptomatology. This was qualified somewhat by other results focused on eating and appearance concerns that indicated that self-oriented perfectionism in girls is associated with lower levels of appearance self-esteem. Overall, however, it was socially prescribed perfectionism that was linked more consistently with the eating and appearance measures in both girls and boys, and it was this dimension that predicted uniquely beyond the EDI Perfectionism scale. These results illustrate the benefits of including a focus on multidimensional perfectionism when assessing young people with issues involving their eating behavior and physical appearance.

## General Discussion

In the current article, we described the original development of the CAPS and reported the results of three studies involving multiple samples. Our first goal was to provide an extended analysis of the psychometric characteristics of the CAPS and its two subscales. Overall, we described extensive evidence that attests to the reliability and validity of this instrument. The subscales had acceptable levels of internal consistency across most samples. Longitudinal research conducted over 6 years found evidence for the temporal stability of the CAPS dimensions (especially among older adolescents), but the degree of stability became lower as the test–retest interval lengthened, as would be the case when there are different developmental trajectories among the participants. Evidence for the validity of the CAPS subscales was also obtained in terms of its established

links with other measures of perfectionism, including the EDI Perfectionism subscale and self-reports of the extent to which perfectionism reflected personal reasons versus parental pressures to be perfect.

Clearly, the most contentious aspect of the CAPS from a psychometric perspective is its factor structure with some researchers having previously found a three-factor structure after reducing the number of scale items. Our results with the 22-item CAPS are in keeping with the presence of two factors resembling self-oriented and socially prescribed perfectionism. When our analyses suggested the presence of a third factor, it was largely comprised of the three negatively worded CAPS items.

Parenthetically, although we did not report it in this article due to space considerations, we have conducted other analyses with more sophisticated techniques (e.g., confirmatory factor analyses). When these techniques were applied to the data from our large Study 1 sample, an acceptable two-factor solution (i.e., a self-oriented factor and a socially prescribed factor) that is invariant across younger and older participants was obtained with a 17-item version of the CAPS but only after removing the three negatively worded items and a few other items. Still, we recommend using the 22-item CAPS, especially for assessment purposes.

Our second goal in the current research was to further document the maladjustment correlates of perfectionism in children and adolescents. Collectively, across several samples in Study 3, perfectionism was associated with self-reported psychopathology, depression, eating and physical appearance concerns, and stress. Socially prescribed perfectionism was the CAPS dimension that was typically associated with these various forms of maladjustment. There were even some indications in Study 3 that self-oriented perfectionism may be associated with positive self-reported adjustment, but this conclusion is qualified considerably by our results showing that both self-oriented perfectionism and socially prescribed perfectionism were associated with substantial educational stress among adolescents from China. Moreover, Sironic and Reeve (2015) showed clearly that both CAPS subscales were associated with perceiving the self as discrepant and falling short of exceptionally high standards. Self-oriented perfectionism in adolescents has also been linked with recurring, obsessive automatic thoughts reflecting the need to be perfect; such thoughts are linked with depression (see Flett et al., 2012). Accordingly, we continue to regard self-oriented perfectionism in most young people as a vulnerability factor that becomes especially salient and associated with distress following the experience of failures and other stressors (for a discussion, see Hewitt & Flett, 1991).

Our overarching goal in conducting this research was to try to advance what is known about perfectionism in children and adolescents. In this regard, the results of Study 2 were especially revealing. Our analyses indicated that there are some positive aspects to self-oriented perfectionism in academic contexts—that is, self-oriented perfectionism was linked with school enjoyment and effort. However, it was also evident that self-oriented perfectionism is very complex at a motivational level. This dimension seems to reflect a complex blend of motives, including a positive form of internalization, but introjected pressure is a strong motivator among young people striving for perfection in achievement contexts. Socially prescribed perfectionism shares some features but also has an extrinsic and external orientation that differentiates it from self-oriented perfectionism.

## **Conclusion**

In summary, the overall picture that emerges from our results across three studies is that the CAPS has sound psychometric properties, and it makes both conceptual and empirical sense to distinguish between self-oriented and socially prescribed perfectionism among children and adolescents. Although the CAPS is arguably the most widely used multidimensional measure of perfectionism in children and adolescents at present, when perfectionism is indicated as an

important assessment focus, it is quite reasonable and advisable to include other perfectionism measures, especially if they have been designed specifically for children and adolescents. Ideally, these assessments will go beyond self-reports to also include observer reports from key informants as well as behavioral indicators.

## Appendix

### *The Child–Adolescent Perfectionism Scale (CAPS)*

This is a chance to find out about yourself. It is not a test. There are no right or wrong answers, and everyone will have different answers. Be sure that your answers show how you actually are. Please do not talk about your answers with anyone else. We will keep your answers private and not show them to anyone.

When you are ready to begin, read each sentence and pick your answer by circling a number from “1” to “5.” The five possible answers for each sentence are listed below.

1. False—not at all true of me
2. Mostly false
3. Neither true nor false
4. Mostly true
5. Very true of me

For example, if you were given the sentence, “I like to read comic books,” you would circle a “5” if this is very true of you. If you were given the sentence, “I like to keep my room neat and tidy,” you would circle a “1” if this was false and not at all true of you.

You are now ready to begin. Please be sure to answer all of the sentences.

- |   | False | True    |
|---|-------|---------|
| 1. I try to be perfect in everything I do                                     | 1     | 2 3 4 5 |
| 2. I want to be the best at everything I do                                   | 1     | 2 3 4 5 |
| 3. My parents don’t always expect me to be perfect in everything I do         | 1     | 2 3 4 5 |
| 4. I feel that I have to do my best all the time                              | 1     | 2 3 4 5 |
| 5. There are people in my life who expect me to be perfect                    | 1     | 2 3 4 5 |
| 6. I always try for the top score on a test                                   | 1     | 2 3 4 5 |
| 7. It really bothers me when I don’t do my best all the time                  | 1     | 2 3 4 5 |
| 8. My family expects me to be perfect   | 1     | 2 3 4 5 |
| 9. I don’t always try to be the best  | 1     | 2 3 4 5 |
| 10. People expect more from me than I am able to give                         | 1     | 2 3 4 5 |
| 11. I get mad at myself when I make a mistake                                 | 1     | 2 3 4 5 |
| 12. Other people think I have failed if I do not do my very best all the time | 1     | 2 3 4 5 |
|   | False | True    |
| 13. Other people always expect me to be perfect                               | 1     | 2 3 4 5 |
| 14. I get upset if there is even one mistake in my work                       | 1     | 2 3 4 5 |



15. People around me expect me to be great at everything	1	2	3	4	5
16. When I do something, it has to be perfect	1	2	3	4	5
17. My teachers expect my work to be perfect	1	2	3	4	5
18. I do not have to be the best at everything I do	1	2	3	4	5
19. I am always expected to do better than others	1	2	3	4	5
20. Even when I pass, I feel that I have failed if I didn't get one of the highest marks in the class	1	2	3	4	5
21. I feel that people ask too much of me	1	2	3	4	5
22. I can't stand to be less than perfect	1	2	3	4	5

Note: Reverse-scored items are 3, 9, and 18.

Then self-oriented perfectionism is the sum of 1, 2, 4, 6, 7, 9, 11, 14, 16, 18, 20, and 22.

Socially prescribed perfectionism is the sum of 3, 5, 8, 10, 12, 13, 15, 17, 19, and 21.

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