Educational Research Journal《教育研究學報》, Vol. 23, No. 1, Summer 2008 © Hong Kong Educational Research Association 2008

Perfectionism and the Striving for Excellence

David W. Chan

Department of Educational Psychology The Chinese University of Hong Kong

This paper provides an overview of recent research studies on perfectionism in the context of the changing conceptions of perfectionism as well as the development of new multidimensional perfectionism measures. The findings on the dimensionality and typology of perfectionism as well as the prevalence of perfectionism among gifted students have led to the conclusion that perfectionism can be distinguished into positive and negative dimensions, and that there are healthy as well as unhealthy perfectionists. Implications of these recent findings for the promotion of positive perfectionism as the striving of excellence and the call for more longitudinal research studies on perfectionism of Chinese students are discussed.

Key words: excellence, perfectionism, dimensionality, typology prevalence, gifted students, Hong Kong

Correspondence concerning this article should be addressed to David W. Chan, Department of Educational Psychology, Faculty of Education, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong. E-mail: davidchan@cuhk.edu.hk

It is generally acknowledged that Olympic championships, scientific breakthroughs, and great works of art are all products of human striving for excellence or perfection. Yet, the common adage that "no one is perfect" seems to suggest that perfection is an unrealistic and unattainable goal. Thus, it is popular to distinguish the pursuit of excellence from perfectionism that is defined negatively or in the context of psychopathology. For example, Hendlin (1992) defined a perfectionist as an individual "who thinks anything short of perfection in performance is unacceptable" (p. 9), in contrast to defining one who strives for excellence as an individual who is "able to derive personal satisfaction and pride from a good-enough performance" (p. 13). Similarly, Greenspon (2000) regarded that one who strives for excellence has good self-esteem, strong desires to master a task and do the best, whereas a perfectionist has a need to excel in anxious attempts to bolster flagging self-esteem, suggesting that perfectionism is a psychic wound and is never healthy. Adderholdt-Elliott (1987) also made a similar distinction. She described a person who strives for excellence as one who works hard, feels confident, feels good with a high but not necessarily perfect score, tries something new, takes risks, and learns from success as well as failure experiences. In contrast, she described a perfectionist as one who overworks, procrastinates, feels unconfident, feels bad with less-than-perfect scores, and avoids new experiences to prevent making mistakes. In summary, the striving for excellence is defined as good, desirable, and healthy, but perfectionism is bad, undesirable, and unhealthy.

Evolving Conceptions of Perfectionism

This conceptualization of perfectionism as negative or pathological has its basis in research studies with adults, and has its roots in clinical observations and studies that associated perfectionism with a host of physical problems, psychological disorders, and psychiatric conditions (see Shafran & Mansell, 2001). Specifically, perfectionistic strivings have been suggested to associate with depression (e.g., Blatt, 1995; Cox, Enns, & Clara, 2002; Hewitt & Dyck, 1986; Hewitt, Flett, & Ediger, 1996), eating disorders (e.g., Brouwers & Wiggum, 1993; Pearson & Gleaves, 2006; Toner, Garfinkel, & Garner, 1986), insomnia (e.g., Lundh, Broman, Hetta, & Saboonchi, 1994; Vincent & Walker, 2000), migraine (e.g., Brewerton & George, 1993), obsessive compulsive disorder (e.g., Ferrari, 1995; Frost & Steketee, 1997), psychosomatic disorders (e.g., Forman, Tsoi, & Rudy, 1987), Type A coronary-prone behavior (e.g., Flett, Hewitt, Blankstein, & Dynin, 1994), and suicide (e.g., Adkins & Parker, 1996; Hamilton & Schweitzer, 2000; Hewitt, Flett, & Turnbull-Donovan, 1992). Despite the body of evidence supporting the link, one can argue that such associations do not lead to the conclusion that pathological conditions are directly caused by perfectionism or that perfectionism is inherently destructive. Nonetheless, perfectionism has been linked both to the pursuit of high and unrealistic goals, which could be destructive (e.g., Pacht, 1984) and compulsive (e.g., Burns, 1983), and to a fear of failure and procrastination (e.g., Adderholdt-Elliot, 1989).

Over the years, this traditional and negative view of perfectionism has not gone unchallenged. Indeed, a positive view of perfectionism has also emerged, especially in the personality and counseling area. Adler (1956) was one of the pioneering theorists who viewed perfectionism as healthy when the striving for perfection includes social concern along with the maximizing of one's potential. Maslow (1971) also emphasized the positive view and described that self-actualization necessarily involves the struggle for perfection of one's talents and capabilities. With this view, he invited counselors to encourage perfectionistic zeal. Apart from the two somewhat contrasting positions, a third perspective has also emerged and has been increasingly adopted by theorists and researchers who view that perfectionism could be represented by a continuum of behaviors and thoughts, and has positive or healthy and negative or unhealthy aspects (e.g., Roedell, 1984; Silverman, 1999, 2007). Alternatively, it has been suggested that there could be separate positive and negative forms of perfectionism (Parker, 2000). This perspective can be represented by Hamachek (1978) who proposed a dichotomy that distinguishes normal from neurotic perfectionism. Normal perfectionism is characterized by conscientious efforts to strive for excellence on tasks whereas neurotic perfectionism is characterized by neurotic and obsessive-compulsive behaviors in the pursuit. Further,

normal and neurotic perfectionists are also distinguished by their thinking about behaviors. Specifically, normal perfectionists derive great pleasure from accomplishments and allow themselves to fail and to be imperfect, whereas neurotic perfectionists, with their extremely high standards, are preoccupied with avoiding mistakes, and never feel that their efforts are good enough (Schuler, 2000). In summary, it seems that both normal and neurotic perfectionists could be represented by the striving to meet the high standards they set for themselves, but normal perfectionists are associated with the accommodation of limitations or imperfections and the satisfaction with their best performance whereas neurotic perfectionists are associated with the non-acceptance of imperfections and the dissatisfaction with their best performance. Accordingly, the striving for excellence is inherent in perfectionism, normal or positive and neurotic or negative alike, and cannot be viewed as the antithesis or opposite of perfectionism.

The Development of Perfectionism Measures

Running parallel to the evolving conceptualization of perfectionism from a unidimensional and primarily negative construct to a multidimensional construct with positive and negative aspects, the assessment of perfectionism has progressed from the development of unidimensional scales to the development of scales that stress the multidimensional nature of the construct. For example, Burns (1983) developed a unidimensional scale that assesses perfectionism as a combination of thoughts and behaviors generally associated with excessively high standards or expectations for one's own performance. However, it was the development of multidimensional scales, which provided new impetus to the recent burgeoning of perfectionism research. Specifically, Hewitt and Flett (1989, 1991) emphasized the multidimensional and interpersonal aspects of perfectionism, and developed the 45-item Multidimensional Perfectionism Scale (MPS) that assesses self-oriented, other-oriented, and socially prescribed perfectionism. Self-oriented perfectionism focuses on excessively high standards, other-oriented perfectionism examines an individual's

expectations of others, and socially-prescribed perfectionism addresses the perceptions of standards set by others. Accordingly, perfectionism not only has an influence on the demands one expects of oneself but also on the demands one expects of others. Frost and his colleagues also emphasized the multidimensional nature of perfectionism, and developed a 35-item multidimensional questionnaire, the Frost Multidimensional Perfectionism Scale (FMPS), which examines the intrapersonal nature of perfectionism (Frost, Martin, Lahart, & Rosenblate, 1990). The FMPS assesses six major dimensions: concern over making mistakes, high personal standards, the perception of high parental criticism, the doubting of the quality of one's actions, the perception of high parental expectations, and a high preference for order and organization.

While both the HMPS and the FMPS explore the multidimensional nature of the construct, the item content of the scales is largely negative. With the aim to give an equal emphasis to the pathological as well as nonpathological aspects of perfectionism, Terry-Short, Owens, Slade, and Dewey (1995) developed a 40-item Positive and Negative Perfectionism Scale (PANPS) to assess perfectionism defined in terms of positive (20 items) and negative (20 items) behavioral consequences or outcomes. Similarly, Slaney, Rice, Mobley, Trippi, and Ashby (2001) also emphasized the assessment of adaptive and maladaptive perfectionism in their 23-item Almost Perfect Scale-Revised (APS-R). The scale assesses the personal standards that respondents set for themselves, their need for order and organization, and their perception of the discrepancy between standards and performance. Despite the different assessment emphases of these different scales, comparative studies indicated that there are similarities between the FMPS and the HMPS (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993), and among the FMPS, HMPS, and APS-R (Slaney et al., 2001; Suddarth & Slaney, 2001). In summary, there is a collective emphasis on the conceptualization that perfectionism is associated with the setting of very high standards, again suggesting that the striving for excellence is encompassed in the construct of perfectionism.

Research on Perfectionism in the Gifted Population

In the voluminous body of research studies on perfectionism, a noteworthy portion of these studies has to do with perfectionism in the specific population of the gifted. There are obvious reasons for the strong research interests on perfectionism in gifted education. While there is no consensus among researchers as to the nature and definition of perfectionism, the link between perfectionism and giftedness has been well recognized among educators of the gifted, with the view that perfectionism might be regarded as a hallmark characteristic of gifted individuals and present disproportionately among the gifted (e.g., Adderholt-Elliot, 1987; Clark, 2002; Roedell, 1984; Roeper, 1982). The early studies generally looked upon perfectionism as representing behaviors and thoughts associated with psychopathology (see Orange, 1997; Silverman, 1999). Bireley and Genshaft (1991), for example, proposed that perfectionism is an adverse reaction to stress in gifted children, arising from their uneven or asynchronous development. With this view, dealing with perfectionism is often regarded as one of the counseling needs of the gifted (Kerr, 1991; Silverman, 1993). Specifically, when gifted students fail to live up to unrealistic expectations, perfectionistic tendencies could cause emotional upheaval. feelings of worthlessness, and depression, and might also make some gifted students more vulnerable to underachievement because they do not submit work unless it is perfect (see Schuler, 2000).

Because of the important role of perfectionism in the emotional well-being of gifted students, it was of great interest to assess the tendency toward perfectionism among gifted students. Indeed, striving toward perfection and being self-critical of one's own work have been included as motivation characteristics for assessment in the Scales for Rating the Behavioral Characteristics of Superior Students (SRBCSS), one of the widely used teacher-rating scales for the identification of superior students in North America (Renzulli, Smith, White, Callahan, & Hartman, 1976). The Chinese versions of the SRBCSS have also come into widespread use in Hong Kong. Other relevant scales that were not developed specifically for gifted individuals have also come

into widespread use in research on perfectionism of the gifted. These scales include the HMPS, the FMPS, and the APS-R.

With the development of these multidimensional assessment instruments and their variants, researchers in the field of gifted education have conducted studies that addressed broadly many important research questions on perfectionism. For the purpose of our discussion, I have tentatively classified these studies as falling into four specific but interrelated areas. They are: (1) the number and nature of dimensions of perfectionism; (2) the typology of perfectionism; (3) the prevalence of perfectionism in the gifted population; and (4) the development of perfectionism.

The Dimensionality of Perfectionism

The studies on the number and nature of dimensions of perfectionism generally were linked to the instruments employed in these studies. For example, based on the development of the instruments, researchers using the HMPS would hypothesize that perfectionism can be described in three dimensions (self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism), whereas researchers using the APS-R would hypothesize three different dimensions (high standards, order, and discrepancy). Perhaps, the structure of perfectionism based on the FMPS has generated more studies and controversies. Specifically, the FMPS hypothesizes six distinct dimensions: Concern over Mistakes (CM; reflecting negative reactions to errors), Personal Standards (PS; setting high standards for evaluation), Parental Expectations (PE; the belief that one's parents set very high standards), Parental Criticism (PC; the perception that one' parents were overly critical), Doubts about Actions (D; the tendency to doubt one's behavior), and Organization (O; the importance placed on orderliness). While some researchers have found support for this structure using confirmatory factor analysis (Parker & Adkins, 1995; Parker & Stumpf, 1995), others have failed to replicate the structure across different samples and found that a three-factor, four-factor, or five-factor solution could be more appropriate (e.g., Purdon, Antony, &

Swinson, 1999; Rheaume, Freeston, Dugas, Letarte, & Ladouceur, 1995; Siegle & Schuler, 2000; Stober, 1998). Specifically, Purdon, Antony, and Swinson (1999) argued for a more parsimonious interpretation with a three-factor solution, suggesting that it was appropriate to consider three scales of Fear of Mistakes, Perceived Parental Pressure, and Goal Achievement Orientation. Stober (1998) and Stumpf and Parker (2000) found that the four-component structure was more appropriate in their principal-component analyses, suggesting that PS and O could be retained as distinct factors, but CM and D could be combined to yield the factor of Concern over Mistakes and Doubts (CMD), and PE and PC could be combined to yield the factor of Parental Expectations and Criticism (PEC). Harvey, Pallant, and Harvey (2004) also reported a four-component structure, but they interpreted the components as Negative Projections, Achievement Expectations, Parental Influences, and Organization. Hawkins, Watt, and Sinclair (2006) found two FMPS items particularly problematic across different studies, and they eliminated the two items in their confirmatory factor analysis. While they found support for four first-order factors, they did not find adequate support for two higher-order factors hypothesized to reflect positive and negative perfectionism. They interpreted these results as not inconsistent with those of Stumpf and Parker (2000) who claimed weak support for two higher-order factors in their hierarchical structural analysis of the FMPS. Thus, while the number and nature of dimensions hypothesized to represent perfectionism might be different depending on the use of different scales or instruments, the search for a higher-order structure of positive and negative dimensions of perfectionism seems to be common across studies using different scales.

The Typology of Perfectionism

This line of research refers to studies that classify individuals as nonperfectionists, positive or healthy perfectionists, and negative or unhealthy perfectionists. Sometimes, researchers could be confused in talking about positive and negative dimensions as if they were talking about healthy and unhealthy perfectionists. In general, two broad approaches have been employed in different studies. One is the rational approach that specifies a cutoff score to differentiate high scorers from low scorers on specific dimensions of perfectionism. The other approach is the empirical approach that employs a clustering procedure for classification.

The rational approach was generally employed by researchers in studies with the APS-R (Slaney et al., 2001) using median splits on the three APS-R scores representing the three APS-R dimensions. Specifically, low scorers on High Standards were classified as non-perfectionists, and high scorers on High Standards as perfectionists could be further divided into adaptive or healthy perfectionists if they were also low scorers on Discrepancy and high scorers on Order, and maladaptive or unhealthy perfectionists if they were also high scorers on Discrepancy irrespective of their scores on Order. For high scorers on High Standards who also scored low on both Discrepancy and Order, they were also classified as adaptive or healthy perfectionists in this scheme.

The empirical approach using clustering procedures was employed in studies with the HMPS (e.g., Speirs Neumeister, 2004; Speirs Neumeister & Finch, 2006) and in studies with the FMPS (e.g., Dixon et al., 2004; Hawkins et al, 2006; Parker, 1997). Specifically, Parker (1997) identified in his sample of academically talented youths three different perfectionist types (two perfectionist clusters and one non-perfectionist cluster). In general, the dysfunctional perfectionists had high scores on all six FMPS scales, the non-perfectionists had low scores on all these scales, and the healthy perfectionists had low scores on CM, PC, and D, high score on O, and moderate scores on PS and PE. The validity of these perfectionist types was supported by their differential relationships with descriptive adjectives and personality attributes. Subsequent studies have also supported the tripartite typology of perfectionists (adaptive/healthy/normal perfectionists, maladaptive/unhealthy/neurotic perfectionists and non-perfectionists) in other gifted samples (Parker & Mills, 1996; Parker, Portesova, & Stumpf, 2001), among college students based on six scales (Rice & Dellwo, 2002; Rice & Lapsley, 2001; Rice & Mirzadeh, 2000; Slaney, Rice, & Ashby, 2002) and secondary schoolgirls based on four scales with PE/PC and CM/D combined (Hawkins et al., 2006). However, there were subtle

differences regarding the level of scores for different types in these studies. In addition to the three types, Dixon, Lapsley, and Hanchon (2004) identified a fourth cluster in their study with gifted adolescents. The healthy type emerged in a cluster of perfectionists (the mixedadaptive type) that scored high on PS, PE, and O, and low on CM, PC, and D. The non-perfectionist type emerged in another cluster (the selfassured non-perfectionist type) that scored pervasively low on all scores. The unhealthy type was represented by two clusters, one scoring high on all scales (the pervasive-maladaptive type, which corresponded to Parker's dysfunctional cluster), and one scoring relatively high on CM, PC, and D, and relatively low on PS and O (the mixed-maladaptive type, which was not evident in Parker's typology). In general, the four cluster groups were shown to relate differentially to indices of mental health, including psychiatric symptoms, positive adjustment, self-image, and coping. However, the two unhealthy clusters did not seem to differ significantly on the assessed indices of mental health. Thus, it seems that three types (healthy perfectionists, unhealthy perfectionists, and non-perfectionists) are generally evident in different studies.

The Prevalence of Perfectionism in the Gifted Population

It has often been suggested that perfectionism could be more prevalent in the gifted population and that more gifted individuals might possess this characteristic than do their non-gifted counterparts (see LoCicero & Ashby, 2000; Orange, 1997; Parker & Adkins, 1995; Schuler, 2000; Siegle & Schuler, 2000; Speirs Neumeister, 2004). However, studies that aimed to address the question of prevalence of perfectionism in the gifted population have yielded mixed results (see Mendaglio, 2007; Parker, 2000; Parker & Mills, 1996; Parker et al., 2001). A closer examination of these studies revealed that the somewhat opposing or contrasting conclusions could arise from the use of different measures of perfectionism administered to different samples of gifted individuals of different ages and levels of giftedness, and from a focus on the exclusive emphasis on the negative or maladaptive aspects of perfectionism as opposed to the emphasis on including both the positive or adaptive aspects and the negative or maladaptive aspects. In addition, researchers sometimes interpreted higher mean scores of gifted individuals as compared with non-gifted counterparts on dimensions or scales of perfectionism rather than a greater proportion of perfectionists in the gifted as compared with the non-gifted population as reflecting that perfectionism is more prevalent in the gifted population. Therefore, to address adequately the simple question of whether there are more perfectionists in the gifted population of a specific age range, more rigorous research studies need to be conducted with reliable and valid perfectionism. Moreover, the proportions of perfectionists classified on the basis of these perfectionism measures among gifted individuals need to be compared with those among non-gifted individuals.

The Development of Perfectionism

This interesting line of research on how perfectionism develops in gifted individuals is also an under-researched area in studies on perfectionism. Recent findings have implicated a host of influence factors that include personality, parental expectations, parental modeling, parenting styles, insecure attachment, and a lack of challenge in the school curriculum (see Ablard & Parker, 1997; Siegle & Schuler, 2000; Speirs Neumeister, 2004; Speirs Neumeister & Finch, 2006). However, there are also findings that suggest that parental perfectionism contributes little to children's perfectionism (see Parker, 2002). Thus, the role of parents in influencing perfectionistic tendencies in children needs to be more rigorously studied. With the view that there are positive and negative perfectionism and there are healthy and unhealthy perfectionists, the factors that influence positive as opposed to negative perfectionism need to be distinguished. Developmentally, it is not known whether specific factors could turn unhealthy perfectionists into healthy perfectionists, or prevent healthy perfectionists from becoming unhealthy perfectionists.

Research on Perfectionism among Gifted Students in Hong Kong

In Hong Kong, few research studies on perfectionism have been documented, and I shall refer largely to my own studies with the gifted population. My early studies on this area were primarily from a somewhat negative perspective. I have developed an instrument to assess six adjustment problem areas of gifted students, and included perfectionism as one of the six areas, the other areas being intense involvement, unchallenging schoolwork, multipotentiality, high parental expectations, and poor interpersonal relationships (Chan, 2003a, 2003b). In these studies, perfectionism as assessed by the instrument is represented by thoughts and behaviors reflecting dissatisfaction or intolerance of imperfections. The general findings indicated that Chinese gifted students endorsed perfectionism defined in these studies as common, second only to intense involvement or heightened sensitivity.

More recently, with a view to assess positive and negative perfectionism among Chinese gifted students, I have developed the Positive and Negative Perfectionism Scale (PNPS-12), and have shown that positive and negative perfectionism could be assessed reliably and validly as two distinct constructs (Chan, 2007b). In the PNPS-12, perfectionism is conceptualized to relate to high personal standards, and is assessed as two distinct components. Positive perfectionism focuses on a realistic striving for excellence, whereas negative perfectionism focuses on a rigid adherence to personal high demands as well as a preoccupation with the avoidance of mistakes. In the study with Chinese gifted students, these students, nominated by teachers, tended to endorse positive perfectionism more than negative perfectionism. In this and subsequent studies (Chan, 2007a, 2007b, in press), I found that positive perfectionism correlated positively with life satisfaction, positive affect, mastery goal of learning, active coping strategies, and positive teacher ratings on students' social functioning and leadership. In contrast, negative perfectionism correlated negatively with life satisfaction, positively with negative affect, performance-avoidance goal of learning, passive coping strategies and negative teacher ratings on students' social functioning and leadership.

I have also used extant perfectionism scales, mainly the FMPS and the APS-R, to uncover the dimensionality and typology of perfectionism (Chan, 2008a, 2008b). While I found supporting evidence for both the FMPS dimensions and the APS-R dimensions, higher-order dimensions in terms of positive and negative perfectionism did not seem to emerge readily from these FMPS and APS-R first-order dimensions. However, three types of perfectionists (healthy or adaptive perfectionists, unhealthy or maladaptive perfectionists, and non-perfectionists) did emerge consistently from both the FMPS and the APS-R data using rational or empirical clustering procedures, suggesting that these types were relatively robust and stable. In summary, both healthy and unhealthy perfectionists set high standards for themselves. The healthy perfectionists allow themselves to fail, to be imperfect, to make mistakes, and they derive pleasure and satisfaction from doing their best. but the unhealthy perfectionists did not accept limitations and imperfections, and they do not feel satisfied with their best performance.

In the study with the APS-R (Chan, 2008b), I have also compared the proportions of healthy and unhealthy perfectionists of gifted students and non-gifted students. I was led to the conclusion that there could be more perfectionists among the gifted students (about 75%) than among non-gifted students (about 50%), and healthy perfectionists outnumbered unhealthy perfectionists in the ratio of 2 to 1 for gifted students whereas the reverse was true for non-gifted students.

So far, very few research studies have been conducted on the development of perfectionism among Chinese students. It is not known, for example, whether unhealthy perfectionists could be turned into healthy perfectionists, or healthy perfectionists could be prevented from becoming unhealthy perfectionists with appropriate intervention efforts, such as those in line with the promotion of the striving for excellence. From a broader perspective, it would be of great interest to explore the contribution of the Chinese family environment, including Chinese parenting style such as *guan* (e.g., Chao, 1994), to the development of positive and negative perfectionism in Chinese children. These and other related issues certainly warrant further investigations in future

longitudinal studies that could focus on the developmental trajectories of different perfectionist types in the Hong Kong Chinese setting.

The Promotion of Positive Perfectionism as the Striving for Excellence

Recent research studies on perfectionism have certainly provided new insights as to how educators, teachers, and parents could view perfectionism and work with perfectionist students. The appreciation of the distinction between positive and negative perfectionism and healthy versus unhealthy perfectionists would alert education practitioners to differentiate that not all perfectionistic tendencies are dysfunctional or all perfectionists are unhealthy or maladaptive. Rather, students with a positive striving for excellence with mastery learning goals should be encouraged. The failure to recognize the positive-negative or healthyunhealthy distinction might lead to an obstruction of gifted students' striving for excellence, not knowing that these behaviors could be manifestations of adaptive achievement motives and goals. In addition, students, while being helped to set high standards and meet challenging goals with good planning and organization, should also learn to recognize their own limitations and appreciate that their mistakes and failures are normal, informative, and situation-specific, and to derive satisfaction on having performed their best despite that there could still be a discrepancy between their desired standards and their performance. Further, teachers and parents could share with students their failure experiences and model adaptive coping strategies to tackle situations where a standard-performance discrepancy does occur, or they could also share success experiences and allow students to learn to savor the pleasure of success with the understanding that there are limitations and imperfections (see Nugent, 2000).

In summary, recent research findings on perfectionism have revealed that it would be more meaningful and beneficial for students to view perfectionism as having positive and negative aspects. The recognition of the distinction will allow one to set high standards and strive for excellence without being trapped in the problems of nonacceptance of imperfections and limitations and dissatisfaction with one's best performance. Thus, the promotion of positive perfectionism will allow one to strive for excellence for the full expression of one's capabilities, whereas eschewing perfectionism because of its negative aspect might lead to a sacrifice of the pursuit of excellence. With these considerations, the call for more research studies to shed further light on the topic of perfectionism among Chinese gifted and non-gifted students should be emphasized.

References

- Ablard, K. E., & Parker, W. D. (1997). Parents' achievement goals and perfectionism in their academically talented children. *Journal of Youth and Adolescence*, *26*, 651–667.
- Adderholt-Elliot, M. (1987). *Perfectionism: What's bad about being too good?* Minneapolis, MN: Free Spirit.
- Adderholt-Elliot, M. (1989). Perfectionism and underachievement. *Gifted Child Today*, 12, 19–21.
- Adkins, K. K., & Parker, W. D. (1996). Perfectionism and suicidal preoccupation. *Journal of Personality*, 64, 529–543.
- Adler, A. (1956). Striving for superiority. In H. L. Ansbacher & R. Ansbacher (Eds.), The individual psychology of Alfred Adler: A systematic presentation in selections from his writings (pp. 101–125). New York: Harper & Row.
- Bireley, M., & Genshaft, J. (Eds.) (1991). Understanding the gifted adolescent: Educational, developmental, and multicultural issues. New York: Teachers College Press.
- Blatt, S. J. (1995). The destructiveness of perfectionism: Implications for the treatment of depression. *American Psychologist*, *50*, 1003–1020.
- Brewerton, T. D., & George, M. S. (1993). Is migraine related to eating disorders? *International Journal of Eating Disorders*, 14, 75–79.
- Brouwers, M., & Wiggum, C. D. (1993). Bulimia and perfectionism: Developing the courage to be imperfect. *Journal of Mental Health Counseling*, 15, 141–149.
- Burns, D. D. (1983). The spouse who is a perfectionist. *Medical Aspects of Human Sexuality*, 17, 219–230.
- Chan, D. W. (2003a). Adjustment problems and multiple intelligences among gifted students in Hong Kong: The development of the revised Student Adjustment Problems Inventory. *High Ability Studies*, *14*, 41–54.

- Chan, D. W. (2003b). Assessing adjustment problems of gifted students in Hong Kong: The development of the Student Adjustment Problems Inventory. *Gifted Child Quarterly*, 47, 107–117.
- Chan, D. W. (2007a). Perfectionism among Chinese gifted students in Hong Kong: Relationships to coping strategies and teacher ratings. *Gifted Education International*, 23, 289–300.
- Chan. D. W. (2007b). Positive and negative perfectionism among Chinese gifted students in Hong Kong: Their relationships to general self-efficacy and subjective well-being. *Journal for the Education of the Gifted.* 31, 77–102.
- Chan, D. W. (in press). Perfectionism and goal orientations among Chinese gifted students in Hong Kong. *Roeper Review*.
- Chan, D. W. (2008a). Dimensionality and typology of perfectionism: The use of the Frost Multidimensional Perfectionism Scale with Chinese gifted students in Hong Kong. Unpublished manuscript.
- Chan, D. W. (2008b). Perfectionism among Chinese gifted and non-gifted students in Hong Kong: The use of the Revised Almost Perfect Scale. Unpublished manuscript.
- Chao, R. (1994). Beyond parental control and authoritarian parenting style: Understanding Chinese parenting through the cultural notion of training. *Child Development*, 65, 1111–1120.
- Clark, B. (2002). Growing up gifted (6th ed.). Upper Saddle River, NJ: Merrill.
- Cox, B. J., Enns, M. W., & Clara, I. P. (2002). The multidimensional structure of perfectionism in clinically distressed and college student samples. *Psychological Assessment*, 14, 365–373.
- Dixon, F. A., Lapsley, D. K., & Hanchon, T. A. (2004). An empirical typology of perfectionism in gifted adolescents. *Gifted Child Quarterly*, 48, 95–106.
- Ferrari, J. R. (1995). Perfectionism cognitions with nonclinical and clinical samples. *Journal of Social Behavior and Personality*, 10, 143–156.
- Flett, G., L., Hewitt, P. L., Blankstein, K. R., & Dynin, C. B. (1994). Dimensions of perfectionism and Type A behavior. *Personality and Individual Differences*, 14, 119–126.
- Forman, M. A., Tsoi, D. J., & Rudy, D. R. (1987). Common irrational beliefs associated with the psychophysiological conditions of low back pain, peptic ulcers and migraine: A multivariate study. *Journal of Rational-Emotive Therapy*, 5, 255–265.
- Frost, R. O., Heimberg, R. G., Holt, C. S., Mattia, J. I., & Neubauer, A. L. (1993). A comparison of two measures of perfectionism. *Personality and Individual Differences*, 14, 119–126.
- Frost, R. O., Martin, P., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive Therapy and Research*, 14, 449–468.
- Frost, R. O., & Steketee, G. (1997). Perfectionism and obsessive compulsive disorder patients. *Behaviour Research and Therapy*, 35, 291–296.

- Greenspon, T. S. (2000). "Healthy perfectionism" is an oxymoron! Reflections on the psychology of perfectionism and the sociology of science. *Journal of Secondary Gifted Education*, 11, 197–208.
- Hamachek, D. E. (1978). Psychodynamics of normal and neurotic perfectionism. *Psychology*, *15*, 27–33.
- Hamilton, T. K., & Schweitzer, R. D. (2000). The cost of being perfect: perfectionism and suicide ideation in university students. *Australian and New Zealand Journal of Psychiatry*, 34, 829–835.
- Harvey, B., Pallant, J., & Harvey, D. (2004). An evaluation of the factor structure of the Frost Multidimensional Perfectionism Scale. *Educational* and Psychological Measurement, 64, 1007–1018.
- Hawkins, C. C., Watt, H. M. G., & Sinclair, K. E. (2006). Psychometric properties of the Frost Multidimensional Perfectionism Scale with Australian adolescent girls: Clarification of multidimensionality and perfectionist typology. *Educational and Psychological Measurement*, 66, 1001–1022.
- Hendlin, S. J. (1992). When good enough is never enough: Escaping the perfection trap. New York: J. P. Tarcher/Putnam.
- Hewitt, P. L., & Dyck, D. G. (1986). Perfectionism, stress, and vulnerability to depression. *Cognitive Therapy and Research*, 10, 137–142.
- Hewitt, P. L., & Flett, G. L. (1989). The Multidimensional Perfectionism Scale: Development and validation [Abstract]. *Canadian Psychology*, *30*, 339.
- Hewitt, P. L., & Flett, G. L. (1991). Perfectionism in the self and social contexts: Conceptualization, assessment, and association with psychopathology. *Journal of Personality and Social Psychology*, 60, 456–470.
- Hewitt, P. L., Flett, G. L., & Ediger, E. (1996). Perfectionism and depression: Longitudinal assessment of a specific vulnerability hypothesis. *Journal of Abnormal Psychology*, 105, 276–280.
- Hewitt, P. L., Flett, G. L., & Turnbull-Donovan, W. (1992). Perfectionism and suicidal potential. *British Journal of Clinical Psychology*, 31, 181–190.
- Kerr, B. (1991). A handbook for counseling the gifted and talented. Alexandria, VA: American Association for Counseling and Development.
- LoCicero, K. A., & Ashby, J. S. (2000). Multidimensional perfectionism in middle school age gifted students: A comparison to peers from the general cohort. *Roeper Review*, 22, 182–185.
- Lundh, L. G., Broman, J. E., Hetta, J., & Saboonchi, F. (1994). Perfectionism and insomnia. *Scandinavian Journal of Behavior Therapy*, 23, 3–18.
- Maslow, A. H. (1971). *The farther reaches of human nature*. New York: Viking Press.
- Mendaglio, S. (2007). Should perfectionism be a characteristic of giftedness? *Gifted Education International*, 23, 89–100.
- Nugent, S. A. (2000). Perfectionism: Its manifestations and classroom-based interventions. *Journal of Secondary Gifted Education*, 11, 215–222.

- Orange, C. (1997). Gifted students and perfectionism. *Roeper Review*, 20, 39–41.
- Pacht, A. R. (1984). Reflections on perfection. American psychologist, 39, 386– 390.
- Parker, W. D. (1997). An empirical typology of perfectionism in academically talented children. *American Educational Research Journal*, *34*, 545–562.
- Parker, W. D. (2000). Healthy perfectionism in the gifted. *Journal of Secondary Gifted Education*, *11*, 173–183.
- Parker, W. D. (2002). Perfectionism and adjustment in gifted children. In G. L. Flett & P. L. Hewitt (Eds.), *Perfectionism: Theory, research, and treatment* (pp. 133–148). Washington, DC: American Psychological Association.
- Parker, W. D., & Adkins, K. K. (1995). Perfectionism and the gifted. *Roeper Review*, 17, 173–176.
- Parker, W. D., & Mills, C. J. (1996). The incidence of perfectionism in gifted students. *Gifted Child Quarterly*, 40, 194–199.
- Parker, W. D., Portesova, S., & Stumpf, H. (2001). Perfectionism in mathematically gifted and typical Czech students. *Journal for the Education of the Gifted*, 25, 138–152.
- Parker, W. D., & Stumpf, H. (1995). An examination of the Multidimensional Perfectionism Scale with a sample of academically talented children. *Journal of Psychoeducational Assessment*, 13, 372–383.
- Pearson, C. A., & Gleaves, D. H. (2006). The multiple dimensions of perfectionism and their relation with eating disorder features. *Personality* and Individual Differences, 41, 225–235.
- Purdon, C., Antony, M. M., & Swinson, R. P. (1999). Psychometric properties of the Frost Multidimensional Perfectionism Scale in a clinical anxiety disorders sample. *Journal of Clinical Psychology*, 55, 1271–1286.
- Renzulli, J. S., Smith, L. H., White, A. J., Callahan, C. M., & Hartman, R. K. (1976). Scales for rating the behavioral characteristics of superior students. Mansfield Center, CT: Creative Learning Press.
- Rheaume, J., Freeston, M. H., Dugas, M. J., Letarte, H., & Ladouceur, R. (1995). Perfectionism, responsibility, and obsessive-compulsive symptoms. *Behavior Research and Therapy*, 33, 785–794.
- Rice, K. G., & Dellwo, J. P. (2002). Perfectionism and self-development: Implications for college adjustment. *Journal of Counseling and Development*, 80, 188–196.
- Rice, K. G., & Lapsley, D. K. (2001). Perfectionism, coping, and emotional adjustment. *Journal of College Student Development*, 42, 157–168.
- Rice, K. G., & Mirzadeh, S. A. (2000). Perfectionism, attachment, and adjustment. *Journal of Counseling Psychology*, 47, 238–250.
- Roedell, W. C. (1984). Vulnerabilities of highly gifted children. *Roeper Review*, *6*, 127–130.
- Roeper, A. (1982). How the gifted cope with their emotions. *Roeper Review*, *5*, 21–26.

- Schuler, P. A. (2000). Perfectionism and gifted adolescents. Journal of Secondary Gifted Education, 11, 183–196.
- Shafran, R., & Mansell, W. (2001). Perfectionism and psychopathology: A review of research and treatment. *Clinical Psychology Review*, 21, 879–906.
- Siegle, D., & Schuler, P. A. (2000). Perfectionism differences in gifted middle school students. *Roeper Review*, 23, 39–44
- Silverman, L. K. (1993). Counseling families. In L. K. Silverman (Ed.), *Counseling the gifted and talented* (pp. 151–178). Denver, CO: Love Publishing.
- Silverman, L. K. (1999). Perfectionism. *Gifted Education International*, 13, 216–225.
- Silverman, L. K. (2007). Perfectionism: The crucible of giftedness. *Gifted Education International*, 23, 233–245.
- Slaney, R. B., Rice, K. G., & Ashby, J. S. (2002). A programmatic approach to measuring perfectionism: The Almost Perfect Scales. In G. L. Flett & P. L. Hewitt (Eds.), *Perfectionism: Theory, research, and treatment* (pp. 63–88). Washington, DC: American Psychological Association.
- Slaney, R. B., Rice, K. G., Mobley, M., Trippi, J., & Ashby, J. S. (2001). The revised Almost Perfect Scale. *Measurement and Evaluation in Counseling* and Development, 34, 130–145.
- Speirs Neumeister, K. L. (2004). Understanding the relationship between perfectionism and achievement motivation in gifted college students. *Gifted Child Quarterly*, 48, 219–231.
- Speirs Neumeister, K. L., & Finch, W. H. (2006) Perfectionism in high ability students: Relational precursors and implications for achievement. *Gifted Child Quarterly*, 50, 238–251.
- Stober, J. (1998). The Frost Multidimensional Scale revisited: More perfect with four (instead of six) dimensions. *Personality and Individual Differences*, 24, 481–491.
- Stumpf, H., & Parker, W. D. (2000). A hierarchical structural analysis of perfectionism and its relation to other personality characteristics. *Personality and Individual Differences*, 28, 837–852.
- Suddarth, B. H., & Slaney, R. G. (2001). An investigation of the dimensions of perfectionism in college students. *Measurement and Evaluation in Counseling and Development*, 34, 157–165.
- Terry-Short, L. A., Owens, R. G., Slade, P. D., & Dewey, M. E. (1995). Positive and negative perfectionism. *Personality and Individual Differences*, 18, 663–668.
- Toner, B. B., Garfinkel, P. E., & Garner, D. M. (1986). Long-term follow-up of anorexia nervosa. *Psychosomatic Medicine*, *48*, 520–529.
- Vincent, N. K., & Walker, J. R. (2000). Perfectionism and chronic insomnia. Journal of Psychosomatic Research, 49, 349–354.