

Perfectionism: The good, the bad, and the creative.

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Abstract:

The influence of adaptive and maladaptive perfectionism on creativity was examined. Initially, six measures of creativity were administered, including creative self-perceptions, behavior, and performance measures. Adaptive perfectionism was weakly positively related to creativity, whereas maladaptive perfectionism was unrelated to creativity across five of the six measures. A follow-up study assessed whether initial findings could be generalized to an everyday problem-solving task. Results indicated that adaptive perfectionism was related to higher quality but not originality of solutions. Further, a curvilinear relationship in the shape of an inverted “U” occurred between adaptive perfectionism and four of eight creativity measures. Overall, adaptive perfectionism was consistently, albeit weakly, related to creativity across various types of measures, whereas maladaptive perfectionism was not related to creativity.

Keywords: perfectionism | creativity | self-assessment of creativity | creative performance | problem solving | psychology | personality

Article:

1. Introduction

Perfectionism is credited with enhancing many different types of performance due to its positive influence on personal expectations, cognitions, self-esteem, attention, and effort (Rice et al., 1998 and Stoeber and Eysenck, 2008). However, certain aspects of perfectionism have been blamed for dysfunctional feelings, cognitions, and behavior such as anxiety, depression, negative affect, and lower psychological well-being (Chang, 2006 and Stoeber and Eysenck, 2008). As such, identification of the multidimensional nature of perfectionism – pioneered by Frost, Marten, Lahart, and Rosenblate (1990) and Hewitt and Flett (1991) – has spurred interest in the differential effects of perfectionism dimensions.

One outcome variable that has received little attention in relation to perfectionism is creativity. Past studies have primarily focused on perfectionism as a unidimensional construct and its impact on gifted children and creative strivings (e.g., Gallucci et al., 2000 and Joy and Hicks, 2004). In general, perfectionists were found to exhibit little desire to be creative. However, quantitative research is needed to assess the relationship between specific perfectionism dimensions and creativity.

1.1. Perfectionism

Perfectionism is defined as one's tendency to set excessively high personal standards (Frost et al., 1990). Hamachek (1978) differentiated between normal and neurotic perfectionism. Normal perfectionists set high personal standards but leave room for making reasonable mistakes and are critical of themselves but in a manner that drives their efforts to be exceptional. Conversely, neurotic perfectionists have little to no tolerance for mistakes and are overly critical of themselves. Neurotic perfectionists tend to procrastinate, and are more concerned with avoiding mistakes than striving for achievement (Frost et al., 1990 and Hamachek, 1978). This differentiation was later dubbed adaptive and maladaptive perfectionism.

Adaptive and maladaptive perfectionism have been conceptualized as independent constructs (Suddarth & Slaney, 2001). It is therefore possible that people high on adaptive perfectionism are not necessarily low on maladaptive perfectionism and vice versa. That is, if the two constructs are independent, a person can exhibit both adaptive and maladaptive perfectionism. However, the substantive meaning of being high on both dimensions is yet to be addressed.

Many studies have shown that perfectionism is related to individual performance (Chang, 2006 and Frost et al., 1990). This stream of research has also revealed that the multidimensional nature of perfectionism must be considered in regard to whether perfectionism will help or hinder one's performance. Adaptive perfectionists tend to excel, perhaps due to their high achievement expectations along with their tolerance for small mistakes (Chang, 2006, Frost et al., 1990 and Hewitt and Flett, 1991). In contrast, maladaptive perfectionism tends to be negatively related to performance.

1.2. Empirical research on perfectionism and creativity

Although the relationship between perfectionism and achievement has been examined extensively, the influence of perfectionism on creativity has received little attention. Creativity

occurs in the form of novel, useful, and socially valued ideas, actions, products, and services (Amabile, 1983). Creativity is strongly influenced by individual differences such as personality and motivational dispositions (Mumford & Gustafson, 1988). Factors that perpetuate creativity tend to entail one's capacity to look at the world from different perspectives, tolerate mistakes, and delve into the unknown.

To date, only a few studies have examined the relationship between perfectionism and creativity. Joy and Hicks (2004) found that perfectionism as a unitary construct was negatively related to the need to be different and openness to experience, two covariates of creativity. Gallucci et al. (2000) examined the direct relationship between perfectionism and creativity using the MPS measure of perfectionism and Khatena–Torrance Creative Perception Inventory, which includes two subscales (Khatena & Torrance, 1970). Perfectionism was negatively related to the subscale of creative striving with a moderate effect size. Surprisingly, perfectionism was not related to the other subscale. The authors suggested their findings may have occurred because perfectionism has a greater impact on creativity motivation than creative thinking style. Notably, Gallucci et al. did not discuss the positive correlation ($r = .31$) between personal strivings (a sub-dimension of adaptive perfectionism) and the SAM. Thus, the study yielded hidden evidence that suggests higher personal strivings are positively related to creativity.

Further, these studies support the notion that perfectionism can be a hindrance to creativity, but did not consider the multidimensional nature of perfectionism that was already established. Specifically, the MPS administered by Gallucci et al. is a multidimensional assessment of perfectionism, so combining both dimensions into a composite single score conflates two independent dimensions that could have diverging effects on creativity (Suddarth & Slaney, 2001). Further, the MPS is weighted in favor of maladaptive perfectionism because there are three times as many maladaptive items on the MPS (Chang, 2006). Taken together, the problems associated with utilizing the MPS as a unidimensional assessment of perfectionism could explain why past work has predominantly found negative relationships between global perfectionism scores and creativity.

1.3. Hypotheses

Overall, studies examining the relationship between perfectionism dimensions and performance or creativity highlight the need to identify the unique influences of adaptive and maladaptive perfectionism on creative behavior. In doing so, it is expected that adaptive perfectionism will enhance creativity by motivating achievement-oriented desires to find unique approaches to problems, encourage openness to new experiences, and promote tolerance of ambiguity.

Hypothesis 1

. Adaptive perfectionism will be positively related to creativity.

Conversely, it is expected that maladaptive perfectionism will inhibit creativity because it will evoke fear of failure, which makes individuals more likely to utilize tried and true approaches when solving problems.

Hypothesis 2

. Maladaptive perfectionism will be negatively related to creativity.

2. Method

2.1. Participants

Participants in the initial study were 334 males and 1002 females from a Midwestern university and a West Coast university. Participants were combined into a 1336 person pool. Participants ranged from 17–66 years-of-age, but the sample was primarily comprised of young adults ($M = 22.9$ years, $SD = 6.51$). In a follow-up study, a total of 364 (106 males, 258 females) undergraduate students from the same Midwestern university participated. Nearly half (46%) of the participants were between 19 and 20 years-of-age, 28.1% were 17–18 years-old, 14.3% were 21–22 years-old, 4.7% were 23–24 years-old, and 6.9% were 25 years-of-age or older. Students received extra credit in a pre-approved class of their choice for their participation.

2.2. Procedure

In the initial study participants completed a series of online surveys including three measures of creative behavior, two self-assessments of creative performance, a creativity task, and a commonly accepted perfectionism measure for assessing adaptive and maladaptive perfectionism. A second study was conducted to examine the relationships between the perfectionism dimensions and creative performance on an everyday problem solving task. Importantly, in the follow-up study, the task required general, everyday, real-world creativity and addressed a different problem domain than the creativity task from the initial study. Participants in the second study were given a story problem. After reading the problem, participants were instructed to provide a “creative solution,” which was defined for them as being “original and

high quality.” Next participants completed measures of adaptive and maladaptive perfectionism, demographics and additional measures.

2.3. Perfectionism dimensions and sub-dimensions

A commonly accepted measure of perfectionism that has been utilized for over 20 years, the MPS (Frost et al., 1990), was administered and included 32-items using a five-point Likert-type survey (1 = Strongly Disagree to 5 = Strongly Agree). The items comprising the adaptive perfectionism dimension showed good internal consistency ($\alpha = .90$). These items were categorized into the sub-dimensions of personal standards and organization. The items subsumed within the maladaptive perfectionism dimension yielded scores with high internal consistency ($\alpha = .92$). Sub-dimensions of maladaptive perfectionism include concern over mistakes, parental expectations, parental criticism, and doubt about mistakes.

2.4. Creative behavior inventory (CBI)

The CBI is a 28 item, five-point frequency scale (1 = Never did this; 5 = Did this more than 5 times) assessing how often participants performed activities considered to be creative. For instance, one creative activity is “painted an original picture”. Survey items excluded activities done in fulfillment of an education/school requirement. Dollinger (2003) adapted this scale from a long version created by Hocesvar (1979). Cronbach’s alpha for the CBI was .93.

2.5. Creative domains questionnaire (CDQ-R)

The CDQ-R is a 21-item, 6-point Likert-type scale (1 = Not at all creative, 6 = Extremely creative) used to provide self-assessments of creativity in specific domains (Kaufman et al., 2009). The items identify domains such as acting, chemistry, and crafts. Participants are instructed to compare themselves to other people with a similar background in each domain. Cronbach’s alpha was .89 in the current study.

2.6. Biographical inventory of creative behaviors (BICBs)

The BICB, developed by Batey (2007), lists 34 creative activities from a broad range of domains, such as produced a TV/play script and composed a poem. The domains covered include everyday creativity, such as arts, crafts, and creative writing, as well as social creativity, such as leadership, coaching, and mentorship. Participants were instructed to indicate whether they have performed each act (yes or no) in the past 12 months. A CFA conducted by Silvia, Wigert,

Reiter-Palmon, and Kaufman (2012) indicated that a single factor model best represents the BICB. Cronbach's alpha for the BICB was .90.

2.7. Self-assessment of creativity scale (SAC)

This six item, seven-point Likert-type scale, was adapted from Kaufman and Baer (2004) to assess participants' perceptions of how creatively they think that they behave (1 = Strongly Disagree to 7 = Strongly Agree). The scale includes items such as "I consider myself to be creative" and "I think of novel and original plans." Cronbach's alpha was .75 for the current sample.

2.8. Bell Curve self-assessment of creativity

This self-assessment of creativity, developed by Furnham and Gasson (1998), allows participants to compare their creativity in relation to a normally distributed sample of people. Participants are shown an example of a Bell Curve that illustrates a normal distribution of IQ scores. Participants are told that a mean score of 100 signifies average intelligence; a score of 70 denotes borderline retardation; and a score of 130 shows superior intelligence. They are then asked to rate their own creativity using this same scale.

2.9. Photograph caption

Participants were asked to provide a caption to an ambiguous photograph of a person sitting at the bottom of a staircase and facing away from the camera. Fourteen independent raters evaluated how creative they considered each caption using Amabile's (1983) consensual assessment technique and a 5-point Likert-type scale (1 = Very Uncreative to 5 = Very Creative). Cronbach's alpha for the ratings was .85. Raters were advanced undergraduate and graduate students studying creativity.

2.10. Creativity of solutions in follow up study

In the follow-up study, participants were asked to provide a creative solution to an ill-defined story problem called Becky's Problem. Becky's Problem entails an appropriate problem for the sample of college students in which a student named Becky encounters a complex scenario riddled with conflict between her friends, job, and home life (see Online Appendix A). Creativity of the solutions was assessed by rating the originality and quality of solutions to Becky's Problem. Three judges rated solution originality, and three different judges rated solution quality.

Originality ratings were based on the novelty, imagination, and structure of each solution. The inter-rater reliability of the originality ratings was good with an rwg of .81 and an ICC of .81. Quality ratings were based on the completeness and effectiveness of each solution. The inter-rater reliability of the quality ratings was good with an rwg of .78 and an ICC of .87.

3. Results

Correlations between all measures were evaluated. All measures of creativity were positively correlated with one another, indicating that they overlapped to some extent (see Table 1). The eight creativity measures clearly assessed distinct aspects of creativity as the correlations ranged from $r = .08$ to $.55$. That is, a wide range of correlations between creativity assessments was expected as the measures addressed different tasks, activities, and domains. Further, correlations between all sub-dimensions of adaptive and maladaptive perfectionism were assessed (see Online Appendix B). Adaptive and maladaptive perfectionism were distinct but related constructs ($r = .61$), as found in previous studies (Kempke et al., 2011).

Table 1. Correlations between creativity measures from the initial study.

Variable	<i>M</i>	<i>SD</i>	Bell Curve	CBI	CDQ-R	BICB	Caption
SAC	22.50	3.81	.55 ^{□□}	.36 ^{□□}	.52 ^{□□}	.27 ^{□□}	.13 ^{□□}
Bell Curve	102.00	15.28	–	.35 ^{□□}	.45 ^{□□}	.25 ^{□□}	.24 ^{□□}
CBI	46.73	14.48		–	.41 ^{□□}	.53 ^{□□}	.11 ^{□□}
CDQ-R	71.76	17.45			–	.34 ^{□□}	.09 [□]
BICB	58.77	6.94				–	.08 ^{□□}
Caption	31.04	11.34					–

Note: Sample size was 1336. SAC = self-assessment of creativity, Bell Curve = bell curve assessment of creativity, CBI = creative behaviors inventory, CDQ-R = revised creative domains questionnaire, BICB = biographical inventory of creative behaviors, and Caption = photo caption task.

□ $p < .05$.

□□ $p < .01$.

Hypotheses were tested by correlating adaptive and maladaptive perfectionism, respectively, with the measures of creativity. Adaptive perfectionism was weakly positively related to both

self-assessments of creativity (SAC and Bell Curve), the creative behaviors captured by the CDQ-R and BICB, and creative performance assessed in the picture caption task (see Table 2). In the follow-up study, adaptive perfectionism was positively related to quality ($r = .12$, $p < .05$). Thus, Hypothesis 1 received support in that adaptive perfectionism was positively related to creativity when assessing six of the eight operationalizations of creativity. Despite the consistent pattern of correlations between adaptive perfectionism and creativity, most effect sizes were small, so these relationships must be interpreted with caution.

Table 2. Correlations between perfectionism dimensions and creativity from the initial and follow-up studies.

DV × IV	Adaptive perfectionism			Maladaptive perfectionism				
	Overall adaptive perfectionism	Personal standards	Organization	Overall maladaptive perfectionism	Concern over mistakes	Parental expectations	Parental criticism	Doubt about actions
SAC	.14 ^{□□}	.18 ^{□□}	.10 ^{□□}	.003	.01	.02	.01	−.02
Bell Curve	.09 ^{□□}	.11 ^{□□}	.06	−.04	−.08 [□]	−.04	−.06	−.11 ^{□□}
CBI	.04	.08 ^{□□}	−.02	.01	−.02	−.01	.03	.01
CDQ-R	.22 ^{□□}	.23 ^{□□}	−.02	−.04	−.03	.04	.03	.01
BICB	.07 [□]	.10 ^{□□}	.01	−.04	−.04	−.03	−.05	−.03
Caption	.05 [□]	.07 [□]	.001	.008	−.05	.001	−.03	−.03
Solution quality	.12 ^{□□}	.08 [□]	.12 ^{□□}	.03	−.02	.01	−.08 ^{□□}	−.03
Solution originality	−.03	−.02	.001	−.04	.06	.03	.001	.004

Note: Sample size for solution quality and originality was 364 participants. Sample size for all other creativity measures was 1336 participants. SAC = self-assessment of creativity, Bell Curve = bell curve assessment of creativity, CBI = creative behaviors inventory, CDQ-R = revised creative domains questionnaire, BICB = biographical inventory of creative behaviors, caption = photo caption task, solution quality = quality rating of solutions from the follow-up study, and solution originality = originality ratings of solutions from the follow-up study.

□ $p < .05$.

□□ $p < .01$.

However, given the negative relationship reported in the past between creativity and perfectionism, these findings are meaningful.

When evaluating the two sub-dimensions of adaptive perfectionism, the personal standards dimension was consistently related to seven out of eight creativity measures. That is, participants with higher personal standards viewed themselves as more creative, engaged in more creative behaviors, and performed better on the creative performance measure. Again, the magnitude of most correlations was not particularly strong, but the pattern of findings was consistent. However, when testing Hypothesis 2, a correlational analysis indicated that maladaptive perfectionism was unrelated to any of the creativity assessments.

Further insight into the relationship between perfectionism and creativity was gained after testing for non-linear effects. Specifically, both perfectionism variables were centered prior to analysis. Then, each of eight measures of creativity was regressed on adaptive perfectionism and its squared value, as well as maladaptive perfectionism and its squared value. No non-linear effects of maladaptive perfectionism on creativity were discovered. In contrast, adaptive perfectionism had non-linear relationships with four of eight measures of creativity. The CDQ-R ($X \beta = .69, X^2 \beta = -.49$), CBI ($X \beta = .38, X^2 \beta = -.34$), Bell ($X \beta = .51, X^2 \beta = -.43$), and Caption ($X \beta = .31, X^2 \beta = -.27$) measures of creativity had curvilinear relationships in the shape of an inverted “U” with adaptive perfectionism. Thus, in half of the creativity measures, the hypothesized relationships were more complex than we expected as adaptive perfectionism was associated with greater creativity to a point, before being associated with a drop in creativity.

Probing of the maximum points of creativity in each curvilinear relationship indicated that creativity is at its highest when adaptive perfectionism is above the mean ($M = 31.81, SD = .8.50, Range = 13-65$) (Aiken & West, 1991). More precisely, maximum points of creativity on the CBI and Caption task curves occurred when adaptive perfectionism scores just exceeded their mean with values of 35.56 and 35.33, respectively. Bell Curve scores were highest when adaptive perfectionism was approximately one standard deviation above the mean ($X = 39.54$) and the CDQ-R curve was at its apex when adaptive perfectionism was two standard deviations above the mean ($X = 49.46$).

In addition, the additive effects of adaptive and maladaptive perfectionism were evaluated by using both in the same regression equation. For the most part, the results mirrored the correlational results with adaptive perfectionism predicting creativity and maladaptive

perfectionism showing no relationship. However, for two creativity measures, the CDQ-R and Bell Curve, suppression effects were found. In these two cases, maladaptive perfectionism became significantly and negatively related to creativity (Bell Curve $\beta = -.15$, CDQ-R $\beta = -.17$, $ps < .01$), while adaptive perfectionism remained positively related to creativity (Bell Curve $\beta = .18$, CDQ-R $\beta = .33$, $ps < .01$). The strength of the positive relationship between adaptive perfectionism and the two creativity measures increased when we controlled for maladaptive perfectionism; however, minimal variance was accounted for in the respective models (Bell Curve $R^2 = .02$, CDQ-R $R^2 = .07$). While not particularly strong, further evidence in support of Hypothesis 1 was revealed, and new found support for Hypothesis 2 emerged.

4. Discussion

The current study was the first to examine the effects of adaptive and maladaptive perfectionism independently on creativity. Mild support was garnered for the hypothesis that adaptive perfectionism will be positively related to creativity. In the initial study adaptive perfectionism was associated with participants' tendency to perceive themselves as creative and perform a variety of creative behaviors. The follow-up study extended these findings to the realm of real world creative problem solving where adaptive perfectionism was related to one aspect of creativity—idea quality. It was not surprising that high quality solutions were devised by people with high personal standards and achievement strivings. Adaptive perfectionists displayed high levels of general performance in previous studies (Chang, 2006 and Stoeber and Eysenck, 2008). However, the absence of a relationship between adaptive perfectionism and solution originality needs further exploration. It may be the case that perfectionists' real world problem solving efforts tend to be biased toward quality because they fear that original ideas may deteriorate the practicality or efficiency of solutions.

The curvilinear relationship in the shape of an inverted “U” between adaptive perfectionism and half of the creativity measures also provides new insights. Based on these somewhat consistent findings, at a point of diminishing returns high levels of adaptive perfectionism were related to lower levels of creativity. This non-linear relationship was not evident across all creativity measures, but it does suggest that having extremely high personal standards and rigid organizational tendencies may inhibit the exploration of unique ideas and activities. That is, this curvilinear association suggests adaptive perfectionism may benefit one's creativity, yet too much adaptive perfectionism may inhibit it. Generally, creativity was maximized by persons with moderately high levels of adaptive perfectionism.

Conversely, the negative relationship between maladaptive perfectionism and creative behavior we expected did not materialize. It may be the case that high performance expectations facilitate

the creativity of some individuals, while stifling others' ability to look at something from different perspectives. As such, other individual differences, such as openness to experience, tolerance for ambiguity, or intelligence, may moderate the relationship between maladaptive perfectionism and creativity. Alternatively, maladaptive perfectionism may simply have little bearing on creativity.

However, when evaluated in conjunction with adaptive perfectionism, a negative relationship between maladaptive perfectionism and creativity did appear when creativity was assessed via the CDQ-R and Bell Curve measures. Specifically, these suppression effects indicated that when the common variance between adaptive and maladaptive perfectionism was taken into account, a negative relationship between maladaptive perfectionism and creativity emerged. As such, fear of failure and inability to gain satisfaction from a job well done – primary characteristics of maladaptive perfectionists – may have deterred participants' desires to be creative (Hamachek, 1978 and Rice et al., 1998). While of interest, these findings must be interpreted with caution, as these effects were found for only two of our creativity variables.

The findings of the current study advance personality and creativity research because they contradict some recent studies (Gallucci et al., 2000 and Joy and Hicks, 2004) but lend support to many of the traditional underpinnings of perfectionism theories (Chang, 2006 and Stoeber and Eysenck, 2008). Most importantly, our findings address a research gap regarding the relationship between the dimensions of perfectionism and creativity. The two current studies were the first to evaluate the dual nature of perfectionism in relation to creativity.

4.1. Limitations and future directions

Some important limitations to the current study should be noted. First, many of the significant correlations were weak in magnitude and likely significant due to large sample sizes. Thus, we are not suggesting that adaptive perfectionism is a primary driving force behind creativity. However, it is important to note that a pattern of findings consistently emerged across six of eight creativity measures suggesting adaptive perfectionism is positively, albeit weakly, related to creativity. Future research and nomological networks should build upon these findings and examine the manner and extent to which perfectionism relates to creativity.

Furthermore, participants were not subjectively categorized as adaptive or maladaptive perfectionists in the study. Rather than making a judgment in regard to what scores justified classification as either type of perfectionism, we assessed the perfectionism dimensions as

continuous variables. Consequently, some participants were high in both adaptive and maladaptive perfectionism, and some were low on both traits. Those scoring low on both dimensions were simply not perfectionists, but future research is needed to better understand the ramifications of exhibiting both adaptive and maladaptive perfectionism.

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Appendix A. Supplementary material

Becky's Problem

Becky is a college student who works part-time at Mark's Pizzeria. Mark, the owner of the restaurant, has treated Becky very well. He gave her a job that she needs to help pay her rent when no other business would employ her because she was arrested for shoplifting three years ago. Mark also lets Becky work around her school schedule, and has asked if she wants to be a shift manager in the summers. Becky's roommate Jim also works at the pizzeria, but Jim has been causing a lot of problems at work. He always avoids doing his job, treats customers rudely,

and makes a lot of mistakes with orders. Jim recently began stealing food from the pizzeria. Two days ago the pizzeria was short-staffed, so Jim and Becky were the only employees left at closing time. Jim made 10 extra pizzas and took them home to a party he was hosting without paying for them. Becky feels like she needs to do something about Jim's behavior. However, Becky is hesitant to tell Mark about Jim because Jim is a good friend to Becky. Becky also needs Jim to have a job so he can pay his portion of their rent. Becky does not know what to do.

Appendix B

Correlations between perfectionism dimensions assessed in the initial study

Variable	<i>M</i>	<i>SD</i>	Personal Standards	Organize	Maladaptive	Concern	Expectations	Criticism	Doubt
Overall adaptive perfectionism	31.81	8.50	.88**	.87**	.61**	.37**	.33**	.18**	.24**
Personal standards	18.02	5.02	—	.54**	.67**	.49**	.43**	.29**	.28**
Organization	13.85	3.57		—	.38**	.15**	.15**	.01	.12**
Overall maladaptive perfectionism	140.40	27.51			—	.83**	.79**	.77**	.72**
Concern over mistakes	28.68	7.14				—	.53**	.77**	.64**
Parental expectations	14.04	4.15					—		
Parental criticism	13.32	3.57						—	.52**
Doubt about actions	12.67	3.07							—

Note: * $p < .05$. ** $p < .01$. Sample size was 1,336 participants