PERFECTIONISM: GOOD, BAD, OR GROWTH?

Thesis

Submitted to

The College of Arts and Sciences of the
UNIVERSITY OF DAYTON

In Partial Fulfillment of the Requirements for

The Degree of
Master of Arts in Psychology

By

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May, 2013

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ABSTRACT

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Perfectionism has been predominantly studied from a clinical perspective, and has only more recently been studied from a normative perspective. Luyckx et al. (2008) studied how personality differences in two facets of perfectionism—adaptive (striving for improvement) and maladaptive (striving for perfect performance)—relate to identity formation and well-being. However, no research has tested adaptive and maladaptive perfectionism experimentally to show how these two facets of perfectionism affect task performance and task motivation (i.e., the subjective experience of the task). In the current study, 78 University of Dayton participants were surveyed for personality characteristics relating to perfectionism and motivation and were then randomly assigned to one of two conditions, one eliciting a motivation for adaptive perfectionism and another for maladaptive perfectionism. Results show that participants primed with adaptive instructions found more solutions than participants primed with maladaptive instructions on the anagram task but no differences were found on the creativity test.

Finally, personality did not affect performance; therefore, the interaction between person and situation was not evaluated.

Dedicated to my family:
My para-kin and academic family

ACKNOWLEDGMENTS

I'd like to thank Dr. Jack J. Bauer, my thesis adviser, for encouraging me to study perfectionism. You have been a great adviser and mentor to me, academically and personally. Thanks for helping me to question, "Life is good." As an adaptive perfectionist, I think that expression can be true. I look forward to continuing to work together in the future.

I would also like to thank my committee members Dr. R. Matthew Montoya and Dr. Erin M. O'Mara for their comments and flexibility throughout this process. Dr. Montoya, thank you for encouraging me to stay on task and to "follow my heart." Dr. O'Mara, thank you for helping me to revise my methods and to "just get it done." You've both been integral to the success of this project.

Finally, I'd like to thank my undergraduate thesis adviser, Dr. Amber L. Garcia, for encouraging me to pursue graduate school. As I worked on my master's thesis, I often thought about the advice you gave me while working on my I.S. Thank you for academically and, most importantly, personally preparing me to pursue my master's degree in psychology.

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INTRODUCTION

Perfectionism has been predominantly studied from a clinical perspective (Burns, 1980; Frost et al., 1990), and has only more recently been studied from a normative perspective (Luyckx et al., 2008), by incorporating Erikson's (1959) theory of ego identity. While Luyckx et al. have created a dual model of perfectionism (i.e., personal standards perfectionism, and maladaptive perfectionism) and studied how identity formation mediates the relation between perfectionism and well-being, perfectionism research (Bieling, Israeli, & Antony, 2004; Frost et al., 1990; Hamachek, 1978; Klibert, Langhinrichsen-Rohling, & Saito, 2005; Luyckx et al., 2008; Slade & Owens, 1998) has not studied the moderating effects of perfectionism (i.e., adaptive and maladaptive). Therefore, the purpose of the current study is to distinguish adaptive and maladaptive perfectionists using performance scores on an anagram task and creativity test, as well as behavioral and situational measures of motivation.

Models of Perfectionism

Perfectionism has been evaluated using multiple constructs, but generally the definition involves setting exceptionally high standards for one's behaviors (Burns, 1980; Frost et al., 1990) and stringent self-evaluations (Hewitt & Flett, 1991b). The predominant focus of perfectionism research concerns the clinical aspects of perfectionism such as depression (Hewitt & Flett, 1991a; Hewitt, Flett, & Ediger, 1996),

anxiety (Frost & DiBartolo, 2002; Hewitt & Flett, 1991b), stress (Chang & Rand, 2000; Dunkley, Zuroff, & Blankstein, 2003), and eating disorders (Garner, Olmstead, & Polivy, 1983; Goldner, Cockell, & Srikameswaran, 2002; Hewitt, Flett, & Ediger, 1995).

However, some research has distinguished perfectionism based on positive and negative aspects (Rice, Ashby, & Slaney, 1998; Stoeber & Otto, 2006). Generally described as a negative personality trait, limited research has been conducted on adaptive perfectionism, or the positive components of perfectionism.

Perfectionism has also been conceptualized using different frameworks—unidimensional (Burns, 1980) and multidimensional (Frost et al., 1990; Hewitt & Flett, 1991b; Hill et al., 2004). From a unidimensional perspective, Burns' Perfectionism Scale (10 items) was designed to capture an individual's perfectionistic beliefs. An individual responded to statements such as, "If I don't set the highest standards for myself, I am likely to end up a second-rate person" and "I should be upset if I make a mistake" with responses ranging from -2 to +2. Ratings could cancel each other out, which Burns hypothesized captured perfectionism on a continuum. Low scores were reported to reflect a low degree of perfectionism, while high scores reflected a high degree of perfectionism. Researchers now reject this approach, and have since adopted multidimensional models.

Multidimensional models approach perfectionism as a complex structure with different components or factors. Frost et al. (1990) devised the Multidimensional Perfectionism Scale (MPS) to assess the intrapersonal aspects of perfectionism. This 6-category model defines perfectionism with factors that are self-directed (High Personal Standards, Doubts about Actions, Concern over Mistakes, and Organization) and reflect parental expectations (High Parental Expectations, and Parental Criticism). However,

Frost et al. (1990) suggested that organization, which was not highly correlated with the other dimensions, be dropped from evaluation.

An alternative to the Frost et al. measure is the Hewitt and Flett (1991b) Multidimensional Perfectionism Scale (MPS), which measures the interpersonal domains of perfectionism. They identified three dimensions: Self-Oriented perfectionism, Other-Oriented perfectionism, and Socially Prescribed perfectionism. Self-Oriented perfectionism (SOP) reflects setting high standards, evaluating and censuring behavior, and continued striving to achieve success and avoid failure. SOP is self-directed and maintained; unattainable goals are set by the self for the self. Conversely, Other-Oriented perfectionism (OOP) is other-directed. This dimension is characterized as having unrealistic expectations for significant others and critical evaluations of others' behaviors. OOP is often marked by maladaptive relationships because of distrust, blame, and hostility, which occur when significant others do not meet unreasonably high expectations. Finally, Socially Prescribed perfectionism (SPP) is described as an unrealistic set of standards and expectations for perfection set by significant others for the self. SPP may lead to negative emotions such as anger and depression, because the expectations from others may be overwhelming, excessive, or rigidly set.

Adaptive and Maladaptive Perfectionism

These clinical perspectives suggest that perfectionism is fundamentally negative. However, Hamachek (1978) as well as more recent researchers (Bieling, Israeli, & Antony, 2004; Slade & Owens, 1998) have distinguished perfectionism based on positive and negative characteristics. More recently, perfectionism research has focused on differentiating two groups of perfectionists—maladaptive (negative) or adaptive

(positive)—to explain correlations to maladaptive characteristics such as stress (Chang, Banks, & Watkins, 2004), low self-esteem (Ashby & Rice, 2002) depression (Enns, Cox, & Clara, 2002; Wei, Mallinckrodt, Russell, & Abraham, 2004), as well as to adaptive characteristics such as conscientiousness (Enns, Cox, Sareen, & Freeman, 2001) and high personal standards (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993).

Hamachek (1978) described two types of perfectionists: normal and neurotic. These different categories of perfectionists not only behave differently, but also think about their perfectionism differently. Normal perfectionists are described as individuals who have high standards in specific domains. The normal perfectionist works hard to meet high expectations, but also feels rewarded by extensive efforts. An important distinction between normal and neurotic perfectionists is that normal perfectionists use their accomplishments as additional support in self-esteem and do not use their accomplishments as the only measure of self-esteem. Hamachek also explains that normal perfectionists can establish performance boundaries, recognizing their strengths and weaknesses in different areas. This encourages normal perfectionists to focus on what they are doing right. However, neurotic perfectionists behave and think about their accomplishments more negatively than normal perfectionists. These individuals set unrealistically high expectations that are unlikely to be achieved, and do not view meeting any standards as accomplishments. In fact, neurotic perfectionists never feel satisfied with their performances, focusing on what they did not do or could have done better. Neurotic perfectionists focus on what they are doing wrong, perpetuating the self-defeating cycle of setting unreachable standards and not achieving them.

Consonant with this distinction between normal and neurotic perfectionism, Frost et al. (1993) related several subscales from Frost et al. (1990) Multidimensional Perfectionism Scale (MPS) to Positive Affect (PA). They found that Personal Standards and Organization were related to PA, but unrelated to Negative Affect (NA). Dunkley, Zuroff, and Blankstein (2006) replicated these findings, and also found Hewitt and Flett's (1991b) Other-Oriented Perfectionism (OOP) to be unrelated to the negative components of perfectionism. Bieling, Israeli, and Antony (2004) found evidence to support a positive or adaptive dimension of perfectionism. They found the construct, Positive Striving, to be related to positive perfectionism on both multidimensional perfectionism scales (MPS; Frost et al., 1990; Hewitt & Flett, 1991b). However, they also found that adaptive and maladaptive perfectionism was related to stress, depression, and anxiety. These findings suggest that perfectionism may have a combination of negative and positive characteristics, but that the individual decides how to harness perfectionistic thoughts in either a positive or negative way. Specifically, adaptive perfectionists may perceive their drive to be perfect as a general motivation to be better. This subgroup of perfectionists may be focused on the process of perfectionism compared to negative perfectionists who may be focused on the product or end-state of perfectionism.

Slade and Owens (1998) have defined perfectionism in two forms—positive and negative, which they defined based on Skinner's (1968) research on positive and negative reinforcement. They suggested that positive perfectionism reflects striving for success and is regulated by positive reinforcement (pursuit). Perfectionists set high goals in order to achieve positive outcomes. Negative perfectionism is defined as negative cognitions and behaviors, which are set to avoid negative consequences (escape). Perfectionists set

these goals in order to avoid aversive conditions. Slade and Owens asserted that individuals could be motivated by the positive, negative, or a combination of these drives. The authors suggested that related to eating disorders, individuals may be motivated by achieving thinness (pursuit) or by avoiding fatness (escape). Although individuals who have eating disorders may appear to approach food-regulation in the same way, it may not be for the same reasons. Those who pursue thinness may be setting these food regulatory mechanisms in order to achieve a goal, thinness, while those who are avoiding fatness may be using these regulatory mechanisms to avoid a feared consequence, fatness.

Furthermore, an individual who is a positive perfectionist may be using perfectionism to promote behaviors, and an individual who is a negative perfectionist may be using perfectionism to prevent negative consequences. Related to self-concept, Slade and Owens claim the positive perfectionist uses perfectionism to approach the ideal self, whereas the negative perfectionist uses perfectionism to avoid the feared self. The positive perfectionist sets high goals with the assumption that if they are achieved, it is rewarding, and if they are not, there are no negative consequences. However, the negative perfectionist sets goals with the notion that even if these goals are achieved, failure is imminent, and if they are not achieved, there are negative consequences. Either way, the negative perfectionist does not relish in the achievement of goals. The positive perfectionist is always setting high goals in order to promote the cognitions and behaviors that will lead to achieving goals. The negative perfectionist sets high goals in order to prevent cognitions and behaviors that could deter from goals. An example of this may be

that the positive perfectionist looks for gains, while the negative perfectionist looks to avoid losses.

Directly framing a model in terms of adaptation, Klibert, Langhinrichsen-Rohling, and Saito (2005) distinguished adaptive and maladaptive perfectionists by self-esteem, perceived self-control, achievement motivation, depression, anxiety, suicidal proneness, shame, guilt, and procrastination. They found that socially-prescribed perfectionists had stronger associations with maladaptive constructs than self-oriented perfectionists. The authors also found that self-oriented perfectionists who did not demonstrate socially-prescribed perfectionism displayed an adaptive disposition toward perfectionism. This suggests that the distinction between adaptive and maladaptive perfectionism may be a matter of whether perfectionism is intrinsically or extrinsically motivated.

Luyckx et al. (2008) have more recently proposed a dual model of perfectionism suggesting that identity formation mediates the relation between perfectionism and well-being. Specifically, Luyckx et al. distinguished two types of perfectionism—maladaptive perfectionism and personal standards perfectionism—as well as five dimensions of identity formation: commitment making, identification with commitment, exploration in breadth, exploration in depth, and ruminative exploration. Luyckx et al. define maladaptive perfectionism using Frost et al.'s (1990) concepts of Doubt about Actions, and Concern over Mistakes, as well as and Dunkley et al.'s (2006) concept of Evaluative Concerns (EC). Likewise, Luyckx et al. define personal standards perfectionism using Frost et al.'s (1990) concept of Personal Standards, as well as Dunkley et al.'s (2006) concept of Personal Striving. Importantly, Luyckx et al. suggest that while both groups of

perfectionists (i.e., maladaptive and personal standards) set high personal standards, they differ on their identity commitments. Personal standards perfectionism was found to be positively associated with commitment-making and active identity exploration and was negatively associated with ruminative exploration. Maladaptive perfectionism was found to be negatively correlated with commitment-making, which interfered with individuals' abilities to form integrated self-identities.

Intrinsic and Extrinsic Motivation

When discussing perfectionism, it is important to consider motivation. Considering the newer dual-process model of perfectionism, motivation has been shown to partially mediate the relation between perfectionism and depressive symptoms and academic adjustment for adaptive and maladaptive perfectionists (Luyckx, Soenens, Goossens, Beckx, & Wouters, 2008). Therefore, based on Luyckx et al.'s findings (2008), motivation may explain why adaptive and maladaptive perfectionists differ; specifically, why these groups may differ on performance. Relevant to the present study, rather than simply mediating the relation between perfectionism and positive or negative personality characteristics, motivation may be the moderator. Individuals who are more intrinsically motivated may use their perfectionism for adaptive reasons, such as greater performance and increased striving. Likewise, individuals who are more extrinsically motivated may use their perfectionism for maladaptive reasons, such as setting unreasonably high standards or goals for themselves or others.

Further, someone may be relatively more motivated by extrinsic or intrinsic concerns. Deci and Ryan, in their self-determination theory (SDT; Deci & Ryan, 1985) posit three basic psychological needs: competence, autonomy, and relatedness. Ryan and

Deci (2000) define competence using Harter's (1978) description of competence and control as mediators in motivation. Relatedness is described using Baumeister and Leary's (1995) concept of "belongingness." Baumeister and Leary describe belongingness as a fundamental motivation. They suggest that fundamental motivations "...can be considered to be fundamental only if health, adjustment, or well-being requires that it be satisfied" (p. 498). Ryan and Deci use DeCharms (1968) description of "personal causation," to illustrate their concept of autonomy. DeCharms explains "personal causation" as the satisfying nature of choice. SDT claims that these three psychological needs are tied to two motivations: extrinsic and intrinsic. Those who are extrinsically motivated are motivated to achieve a "separable outcome," versus those who are intrinsically motivated to do an activity for "inherent satisfaction" (p. 71). Simply, those who are extrinsically motivated are motivated as a mechanism to achieve something else, versus those who are intrinsically motivated are motivated by the process itself. The authors describe competence, relatedness, and autonomy along a spectrum of extrinsic and intrinsic behaviors, and suggest that the fulfillment of these needs is what leads to an increase intrinsic motivation.

The difference between perfectionism and growth motivation may be a difference in an emphasis of control. Deci (1980) claims while control is a necessary component of self-determined behavior, there is a difference between motivations for control versus self-determination. Individuals who have a need for control emphasize the predictability of behaviors and outcomes. The outcome therefore determines the appropriate choice of behaviors. However, an individual who has a need for self-determination may not care whether he or she has personal control over a situation. In fact, what matters is whether or

not an individual identifies with the action (Bauer & Park, 2010). Related to perfectionism, adaptive perfectionists may emphasize a need for self-determination and maladaptive perfectionists may emphasize a need for control.

Ryan and Deci (2003) explain that strong external regulations limit the potential for something to be internalized and adhered to after the external contingency is removed. Therefore, at least certain groups of perfectionism cannot be considered entirely external because many perfectionists endorse their behaviors in different areas of their lives, which are not necessarily controlled by others. Also, positive or adaptive perfectionists may be characterized by a strong endorsement of their behaviors. Further, adaptive perfectionists may endorse their behaviors more entirely than maladaptive perfectionists. Instead of simply abiding by external forces, the adaptive perfectionist may also be adhering to internalized standards for behavior. Ryan and Deci (2003) also suggest that “activities regulated through identification are therefore to a large degree autonomous, that is they are accompanied by an experience of volition and freedom in acting” (p. 258), but that these identifications can vary amongst individuals depending on how fully they are supported. Ryan and Deci describe identifications as either compartmentalized or integrated within an individual. Although identifications are internalized, it does not mean that an individual necessarily benefits from them. Related to perfectionism, this suggests that a perfectionist might only be considered adaptive if the individual not only integrates perfectionism into his or her identity but also exhibits high autonomy. Otherwise, a perfectionist who compartmentalizes his or her perfectionism but exhibits high autonomy may be more likely to exhibit maladaptive perfectionism.

Classifying adaptive perfectionism is an interesting dilemma because while an individual may be acting autonomously, it does not mean that the individual necessarily enjoys the structure and rigidity of this mechanism. Ryan and Deci (2003) explain, “In short, intrinsic motivation and well-integrated extrinsic motivation are similar in that they both represent fully autonomous or self-determined behavior, but they are different in that intrinsic motivation stems from an activity’s interest value, whereas integrated regulation stems from its instrumental values or utility” (p. 258).

Therefore, adaptive perfectionists and intrinsically-motivated individuals may appear to have similar motivations. However, there is a subtle difference between them. Perfectionism may be an integrated part of an individual’s identity; however, it does not mean that the individual simply enjoys the experience of it. Rather, the individual enjoys the utility of perfectionism, or what the perfectionistic concerns and goals helps him or her attain. The perfectionist uses this mechanism to accomplish something else, and doesn’t simply appreciate acting perfectionistic. Intrinsically motivated individuals, however, fully appreciate experiences for what they are, rather than for their utility. They allow themselves to be satiated by the experience. Considering the source of these experiences, perfectionism, regardless of whether it is positive or negative is not truly intrinsically motivated. Individuals do not inherently experience perfectionism as a source of motivation, but use it to enhance (adaptive perfectionism) or to simply regulate (maladaptive perfectionism) their motivations. However, growth motivated individuals are motivated by the inherent drive to grow and improve, to exist more fully. So, although both groups of individuals act autonomously, growth motivated individuals are also intrinsically motivated.

Using Ryan and Deci's (2003) continuum of relative autonomy, adaptive and maladaptive perfectionists can also be distinguished. Maladaptive perfectionists may have lower well-being because they are acting less autonomously than adaptive perfectionists. Maladaptive perfectionists may be acting at the introjected regulation stage because their self-worth is contingent on their success of acting perfectly. Regardless of whether maladaptive perfectionists are behaving according to others' high standards or their own, they base their worth as individuals on their successes, and more often, failures to attain unreasonably high standards. This suggests that maladaptive perfectionists don't truly embrace perfectionism as a part of their identity. Instead, they are controlled by it and view it as external to themselves. Individuals at this stage may understand that they are using the mechanism of perfectionism, but do not consider perfectionism to be a useful or controllable part of their identities. These individuals may be aware that they are governed by it, but do not have a say in how or when it is channeled.

Comparatively, adaptive perfectionists may be identified as higher on the relative autonomy continuum (Ryan & Deci, 2003), consistent with identified regulation or integrated regulation. With identified regulation, a perfectionist starts to value perfectionism as a part of the individual's identity. Even higher on the relative autonomy continuum, a perfectionist may exhibit high autonomy, by assimilating others' ideals with his or her ideas of perfectionism. Interestingly, differences of intrinsic versus extrinsic motivation in terms of passion (Vallerand, 2008) may also provide a more tailored framework for distinguishing adaptive and maladaptive perfectionists.

Obsessive and Harmonious Passion

Adaptive and maladaptive perfectionism may also be distinguished in terms of passion. Drawing on self-determination theory (Ryan & Deci, 1985), Vallerand (2008) defines passion "...as a strong inclination toward an activity that people like, find important, and in which they invest time and energy" (p. 1). The concept of passion applies to perfectionism because perfectionists place high value on the activities in which they dedicate themselves. They set high standards for performance and persist in their efforts to achieve these goals. Passion is described as a fundamental motivation for individuals who engage in activities that they may or may not enjoy. This parallels the concept of perfectionism because different groups of perfectionists, adaptive and maladaptive, may or may not enjoy pursuing the high goals they have set for themselves or others. Adaptive perfectionists may be able to enjoy the process of attaining a high standard and relish in their accomplishments if they are able to achieve a high standard. Generally, adaptive perfectionists enjoy pursuing their interests and view their goals optimistically.

Therefore, related to Vallerand's (2008) definition of passion, adaptive perfectionists may be experiencing harmonious passion. Vallerand describes harmonious passion as the autonomous internalization of an activity, meaning the individual is able to integrate the passion into his or her identity. Not only is the activity enjoyed, but the individual identifies with the activity as a part of the self. For example, someone who enjoys playing an instrument might describe himself or herself as a musician. This implies that the person is not simply utilizing the instrument to participate in an activity, but that the activity is also a descriptive part of his or her identity. The activity, playing

an instrument, does not adequately describe the relationship between the individual and the instrument. The relationship is deeper; the individual experiences a more mutual, symbiotic relationship with the instrument. The instrument represents the individual's experience as a musician, and is integrated into the individual's identity. With this increased integration, an individual is also able to exhibit more control or autonomy over his or her participation in the activity. The individual is able to participate in the activity whenever he or she chooses, and has the option of discontinuing the activity if it becomes dissatisfying. Harmonious passion is a flexible experience for the individual, meaning that someone does not have to dedicate all cognitive resources to participating in this activity. Simply, the individual is able to focus on the passionate activity as much or as little as he or she chooses, and may enjoy participating in other activities as well.

Conversely, maladaptive perfectionists may be experiencing obsessive passion. Vallerand describes obsessive passion as a strong and uncontrollable urge to participate in an activity (2008). Individuals who engage in obsessive passions are described as inflexible, or rigid in their pursuit of these activities. Their intense focus on an activity may lead to neglect of other goals and may create long-term dissatisfaction. Instead of attempting to integrate an obsessive passion with other commitments, the individual devotes the majority of his or her cognitive resources to pursuing this activity. Someone who has an obsessive passion is described as leading a life of imbalance. Again, the distinction between adaptive and maladaptive perfectionism may be described in terms of intrinsic versus extrinsic motivation, harmonious versus obsessive passion, and perhaps, in terms of growth motivation (Maslow, 1968). Specifically, adaptive perfectionists may be those with growth-oriented perspectives.

Growth Motivation

Growth motivation has been defined by researchers as an orientation for personal growth (Bauer et al., 2012). Maslow (1968) discusses an individual who pursues growth compared to pursuing safety. He explains, “Therefore we can consider the process of healthy growth to be a never ending series of free choice situations, confronting each individual at every point throughout his life, in which he must choose between the delights of safety and growth, dependence and independence, regression and progression, immaturity and maturity” (p. 45). He argues that growth is a process of making choices that may be considered unsafe, but it is the pursuit of these goals—in spite of anxieties about leaving what is known and stepping into the unknown—that marks a healthy individual. Individuals who are growth motivated are able to trust themselves, rather than relying too heavily on external standards.

One key component of growth motivation is intrinsic motivation, which holds consistent ties to well-being, activity-engagement, and performance (Deci & Ryan, 1985). An individual who is intrinsically motivated may set general or specific goals for achievement, assured that he or she possesses or will possess, in the future, the skills to accomplish these goals. However, an individual, who is not intrinsically motivated, may be encouraged to avoid situations or behaviors. Also, an individual who is intrinsically motivated participates in an activity because the activity itself is enjoyed, whereas an individual who is extrinsically motivated (depending on level of autonomy) participates in an activity for the instrumental value (Ryan & Deci, 2003).

Growth motivation may reflect the lifelong process of integrating new information and experiences into a stable identity (Erikson, 1959). Luyckx et al. (2008)

have researched the relationship between perfectionism, identity exploration, and commitment. They identified identity formation through five dimensions: Commitment Making, Identification with Commitment, Exploration in Breadth, Exploration in Depth, and Ruminative Exploration. Luyckx et al. found maladaptive perfectionism to be negatively correlated with Commitment Decisions and Ruminative Exploration. They found adaptive perfectionism (personal standards) to be related to Commitment Decisions, Exploration in Breadth, and Exploration in Depth. This research suggests that adaptive perfectionism (perhaps, growth motivation) leads to better adjustment and well-being compared to those who exhibited maladaptive perfectionism (rumination, self-doubt) due to great identity formation through exploration and commitment.

Perfectionism that focuses on process, such as perfecting behavior or adherence to rules might prevent individuals from experiencing and integrating information. It may prevent an individual from stabilizing his or her identity, creating a more- versus less-dependent relationship on perfectionistic behaviors versus growth.

This flexibility is a characteristic of growth-oriented individuals, or those who are motivated toward self-actualization (Maslow, 1968). However, both adaptive and maladaptive perfectionists exhibit rigidity. Adherence to scripted behaviors is absolute; deviations from these scripts are considered missteps or failures. Deci (1975) explains that cognitive dissonance or the perceived differences between cognitions does not always have to be uncomfortable, but can represent a challenge (p. 162). Applied to perfectionism, the discrepancy between cognitions may be uncomfortable for both maladaptive and adaptive perfectionists, but may also be a challenge for adaptive perfectionists. Adaptive perfectionists, or growth motivated individuals, may see these

discrepant cognitions as a challenge to understand and to more completely integrate disparate cognitions. They might enjoy integrating these dissonant perspectives into a cohesive identity.

The Present Study

The purpose of the present study is to reframe existing models of perfectionism, incorporating intrinsic versus extrinsic motivation. Considering differences in intrinsic and extrinsic motivation, perfectionism can be considered in two forms—adaptive and maladaptive. Adaptive perfectionists are predicted to score higher on personality measures of intrinsic motivation, harmonious passion, and growth motivation than maladaptive perfectionists.

In this study participants will take measures of perfectionism and motivation and will then be divided into two conditions. They will be given either adaptive instructions suggesting they focus on intrinsic goals of enjoyment and personal challenge, or maladaptive instructions suggesting they focus on extrinsic goals of performance and achievement in an anagram task and creativity test. I will test for the moderating effects of personality (i.e., growth motivation and autonomy) on the situation (i.e., adaptive and maladaptive conditions) in predicting performance and persistence.

The hypotheses of the proposed study are as follows:

Hypothesis 1. The first hypothesis is that adaptive perfectionists are predicted to find more solutions (i.e., better performance) on the anagram task and generate more uses for an object on the creativity test than maladaptive perfectionists. I will test this using an independent samples *t*-test. Performance will be measured

by the total number of correct anagrams and total number of uses generated for an object (i.e., cup) on the creativity test.

Hypothesis 2. The second hypothesis is that adaptive perfectionists are predicted to exhibit greater intrinsic motivation on the anagram task and creativity test than maladaptive perfectionists. I will test this using an independent samples *t*-test.

Intrinsic motivation will be measured after the anagram task and creativity test measured by the Situational Motivation Scale (Guay, Vallerand, & Blanchard, 2000).

METHOD

Participants

The sample consisted of 78 participants, 40 male (51.3%), 37 female (47.4%), and 1 (1.3%) who did not specify gender. The average age was $M = 19.51$, $SD = 1.36$. As for ethnicity, 61 participants (78.2%) were European-American (non-Hispanic), 4 participants (5.1%) were Hispanic-American/Chicano/a, 1 participant was African-American (1.3%), 7 participants were Middle-East-American (9.0%) and 5 participants categorized themselves as Other (6.4%). This study was posted on Sonasystems, an online experiment-listing website. Participants were routed to Survey Monkey to complete the survey. Participants received course credit for their participation.

Procedure

Participants were recruited through the Psychology department at the University of Dayton and will be given course credit for their participation. A description of the study was posted on Sonasystems, an experiment-listing website. Participants were able to sign up for the study on Sonasystems and were routed to the survey on Survey Monkey.

Participants were first presented with an informed consent form online. If they agreed to continue after reading the informed consent form, they were presented with the Growth Motivation Index (GMI; Bauer et. al, 2012), the Authenticity Scale (Wood,

Linley, Maltby, Baliousis, & Joseph, 2008), the Multidimensional Perfectionism Scale (MPS; Frost, Marten, Lahart, & Rosenblate, 1990), Perfectionism Inventory (PI; Hill et al., 2004), The Passion Scale (HPOP; Vallerand et al., 2003), the Hedonic and Eudaimonic Motives for Activities Scale (HEMA; Huta & Ryan, 2010), and the Achievement Goal Questionnaire-Revised (AGQ-R; Elliot & Murayama, 2008). After completing these measures, participants were primed with either adaptive or maladaptive instructions for the anagram task. Participants were presented a list of anagrams and instructed to solve as many as possible in five minutes. Each individual anagram had a possible solution, but the entire list of anagrams was challenging, if not impossible, to finish within five minutes. Participants were instructed to record the time they started and completed the anagram task. After finishing the anagram task, participants completed the Situational Motivation Scale (SIMS; Guay, Vallerand, & Blanchard, 2000). Specifically, The Situational Motivation Scale served as a manipulation check for the idea that the two conditions prompts (i.e., adaptive and maladaptive) tapped into intrinsic versus extrinsic motivation.

After participants have finished attempting to answer as many anagrams as possible within five minutes, they will be primed again with instructions (i.e., same condition as for the anagram task) for a creativity test. Participants were presented with a picture of an object (i.e., cup) and instructed to generate as many uses for the object as possible within five minutes. Participants were instructed to record the time they started and completed the creativity test. Again, after finishing the creativity test, participants completed the Situational Motivation Scale (SIMS; Guay, Vallerand, & Blanchard, 2000).

Finally, participants were asked to provide demographic information. After the completing the study, participants were presented with an online debriefing form (See Appendix H) describing the purpose of the study, additional resources, and contact information. Due to the use of deception in this study, participants were required to give their permission to use their data. Participants either clicked, “You may use my data” or “I would like to have my data withdrawn.” Participants were thanked for their participation and given course credit for their participation on Sonasystems.

Measures

Growth Motivation Index (GMI; Bauer et. al, 2012). Bauer et al. (2012) developed the GMI to evaluate deliberate growth motivation. The 9-item GMI includes three subscales: *Intellectual Growth Motivation*, *Experiential Growth Motivation*, and *Maintenance/Non-Growth*. All responses are given on a 7-point interval scale ranging from 1 (*Never*) to 7 (*Always*). Internal consistency (α) was .76. Sample items from the measure include: “I try to form my personal goals in life around my deeper interests” and “I actively seek new perspectives on how to live my life, even if these new perspectives mean I’ve been wrong.

Authenticity Scale (Wood, Linley, Maltby, Baliousis, & Joseph, 2008). Wood, Linley, Maltby, Baliousis, & Joseph (2008) developed the 12-item Authenticity Scale as a person-centered measure of authenticity. The Authenticity Scale has three subscales: *Self-alienation* (4 items, $\alpha = .78$), *Authentic living* (4 items; $\alpha = .69$), and *Accepting external influence* (4 items, $\alpha = .78$). Responses are rated on a 7-point interval scale from 1 (*Does not describe me at all*) to 7 (*Describes me very well*). Sample items from the

measure include: “I feel as though I don’t know myself very well” and “I think it is better to be yourself, than to be popular.”

Multidimensional Perfectionism Scale (MPS; Frost, Marten, Lahart, & Rosenblate, 1990). The MPS was designed to assess intra-personal perfectionism. The 35-item MPS includes 6 subscales: *Concern over Mistakes* (CM; 9 items), *Personal Standards* (PS; 7 items), *Parental Expectations* (PE; 5 items), *Parental Criticism* (PC; 4 items), *Doubts about Actions* (D; 4 items), and *Organization* (O; 6 items). All responses are given on a 5-point interval scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Internal consistency (α) for the subscales ranged from .88 for CM, .83 for PS, .84 for PE, .84 for PC, .77 for D, and .93 for O.

Perfectionism Inventory (PI; Hill et al., 2004). Hill et al. developed a measure to combine two Multidimensional Perfectionism Scales (MPS; Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991). The 8-scale measure includes: *Concern Over Mistakes* (8 items; $\alpha = .86$), *High Standards for Others* (7 items; $\alpha = .83$), *Need for Approval* (8 items; $\alpha = .87$), *Organization* (8 items; $\alpha = .91$), *Parental Pressure* (8 items; $\alpha = .88$), *Planfulness* (7 items; $\alpha = .86$), *Rumination* (7 items; $\alpha = .87$), and *Striving for Excellence* (6 items; $\alpha = .85$). All responses are given on a 5-point interval scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*).

The Passion Scale (HPOP; Vallerand et al., 2003). Vallerand et al. (2003) developed the 14-item HPOP to distinguish two subscales of passion: *Harmonious Passion* (HP; 7 items; $\alpha = .79$) and *Obsessive Passion* (OP; 7 items; $\alpha = .89$). Vallerand et al. hypothesized that *Harmonious Passion* results from an autonomous internalization of an activity into an individual’s identity versus *Obsessive Passion*, which results from a

controlled internalization of an activity into an individual's identity. Responses are rated on a 7-point interval scale from 1 (*Do not agree at all*) to 7 (*Completely agree*). More recently, Vallerand, Pacquet, Philippe, and Charest (2010) have used a 12-item HPOP and reported internal consistencies (α) of .71 for HP and .92 for OP. Sample items from the measure include: "This activity is in harmony with the other activities in my life" (HP) and "I have the impression that my activity controls me" (OP).

Hedonic and Eudaimonic Motives for Activities Scale (HEMA; Huta & Ryan, 2010). The revised version of 18-item measure includes two subscales, *Hedonic Motives* and *Eudaimonic Motives*, with internal consistencies from the original measure ranging from .82 to .85, respectively. All responses are given on a 7-point interval scale ranging from 1 (*Not at all*) to 7 (*Very much*). Sample items from the measure include: "Seeking social status or prestige" and "Seeking to be perfect."

Achievement Goal Questionnaire-Revised (AGQ-R; Elliot & Murayama, 2008). Elliot and Murayama (2008) revised the Achievement Goal Questionnaire (Elliot & McGregor, 2001) and developed the AGQ-R. The AGQ-R includes 4 subscales: *Mastery-approach goals* (3 items, $\alpha = .84$), *Mastery-avoidance goals* (3 items, $\alpha = .88$), *Performance-approach goals* (3 items, $\alpha = .92$), and *Performance-avoidance goals* (3 items, $\alpha = .94$). Responses are rated on a 5-point interval scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample items from the measure include: "My aim is to perform well relative to other students" and "I am striving to avoid performing worse than others."

Situational Motivational Scale (SIMS; Guay, Vallerand, & Blanchard, 2000). Guay, Vallerand, and Blanchard (2000) developed the SIMS to evaluate situational

(state) motivation. The 16-item SIMS includes four subscales: *Intrinsic Motivation* (4 items; $\alpha = .95$), *Identified Regulation* (4 items; $\alpha = .80$), *External Regulation* (4 items; $\alpha = .86$), and *Amotivation* (4 items; $\alpha = .77$). Sample items from the measure include: “Because I think that this activity is interesting” and “Because I don’t have any choice.” All responses are given based on a 7-point interval scale from 1 (*Corresponds not at all*) to 7 (*Corresponds exactly*).

RESULTS

Descriptive Statistics

Descriptive statistics for variables can be found in Table 1. For the anagram task, the three highest scores (40, 46, and 53) were outliers and coincided with a self-reported, elapsed time of more than 20 minutes (the instructions called for five minutes). These participants were dropped from further analyses, leaving 75 participants. Gender differences were found for some variables but did not significantly affect findings related to the hypotheses (See Table 2).

Analyses for Hypothesis 1

As predicted, participants primed with adaptive instructions solved more anagrams ($M = 15.34$) than participants primed with maladaptive instructions ($M = 11.03$) on the anagram task, $t(73) = 3.09, p = .003$ (See Table 3).

Contrary to predictions, participants primed with adaptive instructions did not generate more uses for an object on the creativity test ($M = 11.22$) than participants who were primed with maladaptive instructions ($M = 11.59$) on the creativity test, $t(73) = -.28, p = .78$ (See Table 3). Participants primed with adaptive instructions scored significantly lower on the second test (creativity) ($M = .04$) than on the first task (anagram) ($M = -.14$), $t(74) = -1.23, p = .22$. Simply, participants in the adaptive condition performance score significantly decreased between the first task and second test. For participants in the

maladaptive perfectionism condition, performance scores between the anagram task ($M = 11.03$) and creativity test ($M = 11.59$) did not significantly differ, $t(33) = -.44, p = .66$.

Analyses for Hypothesis 2

Contrary to predictions, regardless of whether participants were assigned to the adaptive or maladaptive condition for the anagram task and creativity test, condition did not significantly affect participants' motivation. However, I ran repeated-measures ANOVAs for each subscale of the Situational Motivation Scale (SIMS) that was administered after (1) the anagram task and (2) the creativity test. I found significant interactions of motivation by condition for intrinsic motivation and external regulation. Identified regulation was only marginally significant. More specifically, the first repeated-measures ANOVA indicated that condition significantly affected intrinsic motivation, $F(1, 73) = 10.37, p = .002$. Participants who were primed with maladaptive perfectionism showed significant increases in intrinsic motivation from the anagram task ($M = 3.16, SD = 1.37$) to the creativity test ($M = 3.09, SD = 1.35$). The second repeated-measures ANOVA indicated that condition marginally affected identified regulation, $F(1, 73) = 3.79, p = .055$. Participants who were primed with maladaptive perfectionism showed significant increases in intrinsic motivation and marginally significant increases in identified regulation from the anagram task ($M = 2.96, SD = 1.38$) to the creativity test ($M = 3.41, SD = 1.72$), whereas participants who were primed with adaptive perfectionism showed the same level of intrinsic motivation and identified regulation after the anagram task ($M = 3.35, SD = 1.26$) and the creativity test ($M = 3.27, SD = 1.16$). The third repeated-measures ANOVA indicated that condition significantly affected external regulation, $F(1, 73) = 4.81, p = .03$. Specifically, participants who were primed

with adaptive perfectionism showed significant decreases in external regulation from the anagram task ($M = 5.50$, $SD = 1.13$) to the creativity test ($M = 5.12$, $SD = 1.51$), whereas participants who were primed with maladaptive perfectionism showed the same level of external regulation after the anagram task ($M = 5.25$, $SD = 1.35$) and the creativity test ($M = 5.35$, $SD = 1.38$). Finally, the fourth repeated-measures ANOVA indicated that condition did not significantly affect amotivation, $F(1, 73) = .49$, $p = .49$.

Individual Differences

Perfectionism. I used two measures of perfectionism: Multidimensional Perfectionism Scale (MPS) and Perfectionism Inventory (PI). MPS-Concern over Mistakes correlated significantly with Rumination, Striving for Excellence, and Obsessive Passion. MPS-Personal Standards correlated significantly with Planfulness, Rumination, Striving for Excellence, Harmonious Passion, Obsessive Passion, and Reflective Growth Motivation. MPS-Parental Expectations correlated significantly with Rumination, Striving for Excellence, and Obsessive Passion. MPS-Parental Concern correlated significantly with Rumination, Striving for Excellence, and Obsessive Passion. MPS-Doubts about Actions correlated significantly with Rumination, Striving for Excellence, and Obsessive Passion. MPS-Organization correlated significantly with Growth Motivation Inventory-Maintenance/Non-Growth. PI-Planfulness correlated significantly with Personal Standards, Organization, Striving for Excellence, and Maintenance-Non-Growth. PI-Rumination was correlated significantly with Concern over Mistakes, Personal Standards, Parental Expectations, Parental Criticism, Doubts about Actions, Striving for Excellence, and Obsessive Passion (See Table 4).

Passion. Harmonious Passion correlated significantly with Personal Standards, Reflective Growth Motivation and Experiential Growth Motivation. Obsessive Passion correlated significantly with Concern over Mistakes, Personal Standards, Parental Expectations, Parental Criticism, and Doubts about Actions (See Table 4).

Growth Motivation. GMI-Reflective correlated significantly with Harmonious Passion and Experiential Growth Motivation. GMI-Experiential correlated significantly with Harmonious Passion, Reflective Growth Motivation, and Maintenance/Non-Growth. GMI-Maintenance/Non-Growth correlated significantly with Organization, Planfulness, and Experiential Growth Motivation (See Table 4).

Exploratory Analyses. No person x condition effects were examined, $p > .10$.

Table 1. Descriptive Statistics

	<i>M</i>	<i>SD</i>	Min.	Max.
Anagram Task Total Score	13.39	6.35	1	34
Anagram SIMS – Intrinsic Motivation	2.89	1.38	1	7
Anagram SIMS – Identified Motivation	3.18	1.32	1	7
Anagram SIMS – External Regulation	5.39	1.23	2	7
Anagram SIMS – Amotivation	3.63	1.43	1	7
Creativity Test Total Score	11.39	5.69	1	25
Creativity SIMS – Intrinsic Motivation	3.30	1.54	1	7
Creativity SIMS – Identified Motivation	3.33	1.43	1	7
Creativity SIMS – External Regulation	5.23	1.44	1	7
Creativity SIMS – Amotivation	3.64	1.56	1	7
MPS – Concern over Mistakes	2.67	.80	1	4
MPS – Personal Standards	3.34	.64	2	5
MPS – Parental Expectations	3.16	.87	1	5
MPS – Parental Criticism	2.55	.90	1	5
MPS – Doubts about Actions	2.85	.87	1	5
MPS – Organization	3.56	.84	2	5
PI – Planfulness	3.48	.77	2	5
PI – Rumination	3.16	.80	1	5
PI – Striving for Excellence	3.03	.81	1	5

Note. SIMS = Situational Motivation Scale. MPS = Frost Multidimensional Perfectionism Scale. PI = Perfectionism Inventory.

Table 2. Gender Differences

	Male		Female		<i>t</i>	df
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
MPS – Parental Expectations	3.38	.84	2.94	.87	2.21*	72
MPS – Parental Criticism	2.80	.89	2.31	.86	2.38*	72
MPS – Doubts about Actions	3.09	.79	2.57	.88	2.69*	72
PI – Striving	3.25	.63	2.78	.93	2.55*	72
Self-Alienation	3.41	1.44	2.55	1.28	2.72*	72
Experiential	5.36	1.13	6.01	.68	-3.01**	72
Maintenance/Non-Growth	4.47	1.22	5.50	1.13	-3.74**	72
AN: SIMS Identified Regulation	3.55	1.26	2.74	1.27	2.75*	72
Harmonious Passion	4.96	1.12	5.44	.96	-2.00*	72

Note. * $p < .05$. ** $p < .005$. MPS = Frost Multidimensional Perfectionism Scale. PI = Perfectionism Inventory. AN: SIMS = Anagram Situational Motivation Scale.

Table 3. Hypotheses

	Condition				<i>t</i>	df
	Adaptive		Maladaptive			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Anagram Task Total Score	15.34	6.61	11.03	5.20	3.09*	73
Anagram SIMS – Intrinsic Motivation	3.16	1.37	2.57	1.35	1.85^	73
Anagram SIMS – Identified Regulation	3.35	1.26	2.96	1.38	1.28	73
Anagram SIMS – External Regulation	5.50	1.13	5.25	1.35	.90	73
Anagram SIMS – Amotivation	3.55	1.34	3.71	1.55	-.48	73
Creativity Test Total Score	11.22	5.65	11.59	5.81	-.28	73
Creativity SIMS – Intrinsic Motivation	3.09	1.35	3.56	1.73	-1.33	73
Creativity SIMS – Identified Regulation	3.27	1.16	3.41	1.72	-.43	73
Creativity SIMS – External Regulation	5.12	1.51	5.35	1.38	-.69	73
Creativity SIMS – Amotivation	3.49	1.39	3.82	1.74	-.93	73

Note. SIMS = Situational Motivation Scale.

* $p = .003$. ^ $p = .065$.

Table 4. Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
MPS_C	--	.42**	.53**	.69**	.66**	.08	.04	.69**	.59**	.05	.47**	.05	-.21	.01
MPS_PS	.42**	--	.54**	.32**	.35**	.20	.39**	.45**	.73**	.31**	.30**	.24*	.04	.12
MPS_PE	.53**	.54**	--	.74**	.36**	.10	-.04	.38**	.50**	.10	.41**	-.04	.01	.05
MPS_PC	.69**	.32**	.74**	--	.51**	.09	-.01	.47**	.46**	.02	.48**	-.03	-.15	-.11
MPS_D	.66**	.35**	.36**	.51**	--	-.01	-.03	.67**	.46**	.11	.44**	.13	-.18	-.07
MPS_O	.08	.20	.10	.09	-.01	--	.26*	.03	.22	.08	-.08	.17	.14	.24*
PI_P	.04	.39**	-.04	-.01	-.03	.26*	--	.17	.30**	.12	-.06	.16	.21	.25*
PI_R	.69**	.45**	.38**	.47**	.67**	.03	.17	--	.67**	.10	.46**	.16	-.12	.11

PI_SE	.59**	.73**	.50**	.46**	.46**	.22	.30**	.66**	--	.20	.49**	.19	-.08	.06
HPOP_HP	.05	.31**	.10	.02	.11	.08	.12	.10	.20	--	.19	.35**	.27*	.21
HPOP_OP	.47**	.30**	.41**	.48**	.44**	-.08	-.06	.46	.49	.19	--	.22	-1.3	-.10
GMI_REF	.05	.24*	-.04	-.03	.13	.17	.16	.16	.19	.35**	.22	--	.37**	.12
GMI_EXP	-.21	.04	.01	-.15	-.18	.14	.21	-.12	-.08	.27*	-.13	.37**	--	.45**
GMI_M	.01	.12	.05	-.11	-.07	.24*	.25*	.11	.06	.21	-.10	.12	.45**	--

Note. * $p < .05$. ** $p < .001$. MPS = Frost Multidimensional Scale. C = Concern over Mistakes. PS = Personal Standards. PE = Parental Expectations. PC = Parental Criticism. D = Doubt about Actions. O = Organization. PI = Perfectionism Inventory. P = Planfulness. R = Rumination. SE = Striving for Excellence. HPOP = The Passion Scale. HP = Harmonious Passion. OP = Obsessive Passion. GMI = Growth Motivation Inventory. REF = Reflective. EXP = Experiential. M = Maintenance/Non-Growth.

DISCUSSION

The purpose of the present study was to frame perfectionism considering motivation. Using motivation, participants could be prompted to perform in an adaptive or maladaptive manner. Unlike previous perfectionism research (Luyckx, Soenens, Goossens, Beckx, & Wouters, 2008), this study serves as the first study to experimentally manipulate adaptive and maladaptive perfectionism. We studied the effects of these two types of perfectionism on performance and experience, where experience was measured in terms of motivation.

The first hypothesis, participants who were primed with adaptive instructions were predicted to find more solutions (i.e., better performance score) on an anagram task and to generate more uses for an object on a creativity test than participants primed with maladaptive instructions. Results supported the hypothesis that participants primed with adaptive instructions would more anagrams; however, adaptive and maladaptive perfectionists did not differ in the total number of uses generated for an object on the creativity test.

Perhaps adaptive perfectionists, after failing to perform perfectly on the first anagram task, changed their perspective for the second, creativity test. Deci, Eghrari, Patrick, & Leone (1994) suggest that individuals vary in terms of internalization processes. Individuals who have integrated an activity may experience more flexibility than individuals who have not integrated an activity. Applied to the current study, participants who were primed with adaptive instructions (e.g., growth motivation, harmonious passion) may have simply integrated the adaptive instructions into their

identities, whereas participants primed with maladaptive instructions did not. By allowing perfectionism to become integrated into their identities, participants primed with adaptive instructions may have been able to exercise more control over their perfectionistic concerns, which were induced by the anagram task and creativity test instructions. Therefore, adaptive perfectionists may have simply attempted the creativity test in a different way than they did on the anagram task because they felt they were able to exercise more control.

The second hypothesis that participants primed with adaptive instructions were expected to exhibit greater intrinsic motivation on the anagram task and creativity test than participants primed with maladaptive instructions was not supported. Dissimilar to predictions, intrinsic motivation remained approximately the same for participants in the adaptive condition following the anagram task and creativity test. However, participants in the maladaptive condition reported a significant increase in intrinsic motivation between the anagram task and creativity test. Likewise, identified regulation followed the same pattern as intrinsic motivation, but was only marginally significant. Finally, external regulation significantly decreased for participants in the adaptive condition, as measured following the anagram task and creativity test, and remained approximately the same for participants in the maladaptive condition.

The lengthy list of 76 anagrams to attempt to solve in five minutes could explain why participants in the adaptive condition reported less external regulation on the second, creativity test, which included an image of a cup and only 25 slots to write about possible uses for the object. Although participants were still primed with perfectionistic instructions on the creativity test, perhaps adaptive perfectionists ruminated less over the

possibility of failure as compared to maladaptive perfectionists as compared to maladaptive perfectionists. Flett, Hewitt, Blankstein, & Gray (1998) studied the prevalence of frequent perfectionism thoughts, which they found uniquely and significantly contributed to distress compared to simply providing some with a trait perfectionism measure. Adaptive perfectionists may have simply ruminated less, thereby leaving less opportunities to compare their actual performance (e.g., I only generated 5 uses for the object) to their ideal performance (e.g., I wish I had generated all 25 uses for the object).

Regardless of why adaptive perfectionists reported less external regulation on the creativity test compared to the anagram test, adaptive perfectionists still reported significantly higher levels of intrinsic motivation than maladaptive perfectionists after being primed with adaptive or maladaptive instructions for the anagram task. Although only marginally significant, maladaptive perfectionists reported greater identified regulation following the creativity test than post-anagram task as measured by the SIMS. Maladaptive perfectionists, who were primed with instructions to perform perfectly and instructed to view each test as an *evaluation* may have simply ruminated less over their performance on a test focusing on creativity rather than the anagram task, which consisted of an impossible amount of anagrams to solve within five minutes. Finally, the quantity of responses for the anagram task ($N = 76$) and creativity test ($N = 25$) may have led maladaptive perfectionists, whom previous perfectionism research has reported high levels of stress (Chang, Banks, & Watkins, 2004), low self-esteem (Ashby & Rice, 2002) and depression (Enns, Cox, & Clara, 2002; Wei, Mallinckrodt, Russell, & Abraham,

2004), to feel more intrinsically motivated to complete the second creativity test versus the first anagram task.

There were several limitations to the present study. First, with only a limited sample size (N=75) after outliers were excluded, effects for the manipulations may have yielded higher significance with a larger sample. Second, the inability to use an interpersonal perfectionism measure (Hewitt & Flett, 1991b) may have limited the relevance of the majority of perfectionism questions presented in the beginning of the study. Although reliable, the Frost et al. (1990) Multidimensional Perfectionism Scale taps in to intrapersonal components of perfectionism, which may not have accurately captured participants' levels of perfectionism because the study was performance-based. Third, the study was administered online; therefore, time spent on the anagram task and creativity test could not be enforced. However, despite three outliers, the distribution of times and scores followed a normal curve. Finally, the order of the anagram task and creativity test was fixed; participants were always presented with the anagram task first and the creativity test second. There may have been carryover effects from the first anagram task to the second creativity test.

Despite several limitations, this is the first experimental study to our knowledge that has attempted to manipulate perfectionism. Importantly, by framing perfectionism as a motivation, we were able to experimentally differentiate adaptive from maladaptive perfectionists. By instructing participants to focus on growth (i.e., opportunity) versus performance (i.e., evaluation), we were able to successfully induce an adaptive or maladaptive mindset for participants. Future research should focus on replicating these findings online, as well as in the laboratory. Further, using other measures such as the

Multidimensional Perfectionism Scale (Hewitt & Flett, 1991b) and Perfectionistic Cognitions Inventory (PCI; Flett, Hewitt, Blankstein & Gray, 1998) would also be interesting to use to distinguish and manipulate adaptive and maladaptive perfectionism.

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APPENDIX A

GROWTH MOTIVATION INVENTORY (GMI)

Instructions: Please rate how often you do the following things on a scale of 1 to 7. Please consider each item individually.

1	2	3	4	5	6	7
Never			Periodically			Always

- _____ 1. I try to do things because I enjoy them rather than because they will make me look good to others.
- _____ 2. The important events in my life tend to be ones that I've shared with friends and family.
- _____ 3. I do things to make my work life personally interesting and not just more impressive to others.
- _____ 4. I spend time with people because they mean something to me rather than because they heighten my social status.
- _____ 5. Whether I like it or not, many of my daily activities are about the maintenance of my life, like trying to stay healthy or working to bring income.
- _____ 6. I actively seek new perspectives from which to think about life, even if they are not easy to accept.
- _____ 7. I ask people what they think about various issues so that I can get a better conceptual understanding of those issues.
- _____ 8. I choose new projects or activities based on whether I can gain knowledge from them.
- _____ 9. I consciously think about how I might better contribute to society.

APPENDIX B
AUTHENTICITY SCALE

Instructions: Please rate the degree to which you agree with the following statements.

1	2	3	4	5	6	7
Does not describe me at all						Describes me very well

_____ 1. I think it is better to be yourself, than to be popular.

_____ 2. I don't know how I really feel inside.

_____ 3. I am strongly influenced by the opinions of others.

_____ 4. I usually do what other people tell me to do.

_____ 5. I always feel I need to do what others expect me to do.

_____ 6. Other people influence me greatly.

_____ 7. I feel as if I don't know myself very well.

_____ 8. I always stand by what I believe in.

_____ 9. I am true to myself in most situations.

_____ 10. I feel out of touch with the "real me."

_____ 11. I live in accordance with my values and beliefs.

_____ 12. I feel alienated from myself.

APPENDIX C

MULTIDIMENSIONAL PERFECTIONISM SCALE (MPS)

Instructions: Please CIRCLE the number that best corresponds to your agreement with each statement below. Use this rating system:

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

- _____ 1. My parents set very high standards for me.
- _____ 2. Organization is very important to me.
- _____ 3. I have been punished for doing things less than perfectly.
- _____ 4. If I do not set the highest standards for myself, I am likely to end up a second rate person.
- _____ 5. My parents never try to understand my mistakes.
- _____ 6. It is important to me that I be thoroughly competent in everything I do.
- _____ 7. I am a neat person.
- _____ 8. I try to be an organized person.
- _____ 9. If I fail at work/school, I am a failure as a person.
- _____ 10. I should be upset if I make a mistake.
- _____ 11. My parents want me to be the best at everything.
- _____ 12. I set higher goals than most people.
- _____ 13. If someone does a task at work/school better than I, then I feel like I failed the whole task.

- _____ 14. If I fail partly, it is as bad as being a complete failure.
- _____ 15. Only outstanding performance is good enough in my family.
- _____ 16. I am very good at focusing my efforts on attaining a goal.
- _____ 17. Even when I do something very carefully, I often feel that it is not right.
- _____ 18. I hate being less than best at things.
- _____ 19. I have extremely high goals.
- _____ 20. My parents expect excellence from me.
- _____ 21. People will probably think less of me if I make a mistake.
- _____ 22. I never feel like I can meet my parents' expectations.
- _____ 23. If I do not do as well as other people, it means that I am an inferior being.
- _____ 24. Other people seem to accept lower standards from themselves than I do.
- _____ 25. If I do not do well all the time, people will not respect me.
- _____ 26. My parents have always had higher expectations than I have.
- _____ 27. I try to be a neat person.
- _____ 28. I usually have doubts about the simple everyday things I do.
- _____ 29. Neatness is very important to me.
- _____ 30. I expect higher performance in my daily tasks than most people.
- _____ 31. I am an organized person.
- _____ 32. I tend to get behind in my work because I repeat things over and over.
- _____ 33. It takes me a long time to do something "right."
- _____ 34. The fewer mistakes I make, the more people will like me.
- _____ 35. I never feel like I can meet my parents' standards.

APPENDIX D
PERFECTIONISM INVENTORY (PI)

Instructions: Please use the following options to rate how much you generally agree with each statement.

1	2	3	4	5
Strongly	Disagree	Neither Agree	Agree	Strongly
Disagree	Somewhat	Nor Disagree	Somewhat	Agree

- _____ 1. My work needs to be perfect in order for me to be satisfied.
- _____ 2. I think through my options carefully before making a decision.
- _____ 3. If I do something less than perfectly, I have a hard time getting over it.
- _____ 4. All my energy is put into achieving a flawless result.
- _____ 5. I find myself planning many of my decisions.
- _____ 6. I spend a lot of time worrying about things I've done, or things I need to do.
- _____ 7. I can't stand to do something halfway.
- _____ 8. Most of my decisions are made after I have had time to think about them.
- _____ 9. If I make a mistake, my whole day is ruined.
- _____ 10. I have to be the best in every assignment I do.
- _____ 11. I usually need to think things through before I know what I want.
- _____ 12. If I say or do something dumb, I tend to think about it for the rest of the day.
- _____ 13. I drive myself rigorously to achieve high standards.
- _____ 14. I need time to think up a plan before I take action.

- _____ 15. When I make an error, I generally can't stop thinking about it.
- _____ 16. I must achieve excellence in everything I do.
- _____ 17. I tend to deliberate before making up my mind.
- _____ 18. I often obsess over something of the things I have done.
- _____ 19. I usually don't make decisions on the spot.
- _____ 20. After I turn a project in, I can't stop thinking of how it could have been better.

APPENDIX E
THE PASSION SCALE (HPOP)

Instructions: First, think about a specific activity that you like, that is important to you, and in which you invest a significant amount of time on a regular basis. Then use the 7-point scale below to answer the following questions about that specific activity.

1	2	3	4	5	6	7
Do Not Agree At All						Completely Agree

- _____ 1. This activity is in harmony with the other activities in my life.
- _____ 2. I have difficulties controlling my urge to do my activity.
- _____ 3. The new things that I discover with this activity allow me to appreciate it even more.
- _____ 4. I have almost an obsessive feeling for this activity.
- _____ 5. This activity reflects the qualities I like about myself.
- _____ 6. This activity allows me to live a variety of experiences.
- _____ 7. This activity is the only thing that really turns me on.
- _____ 8. My activity is well integrated in my life.
- _____ 9. If I could, I would only do my activity.
- _____ 10. My activity is in harmony with other things that are part of me.
- _____ 11. This activity is so exciting that I sometimes lose control over it.
- _____ 12. I have the impression that my activity controls me.

APPENDIX F

HEDONIC AND EUDAIMONIC MOTIVES FOR ACTIVITIES SCALE (HEMA)

Instructions: To what degree do you typically approach your activities with each of the following intentions, whether or not you actually achieve your aim? The rating scale is:

1	2	3	4	5	6	7
Not at All						Very Much

- _____ 1. Seeking to take it easy
- _____ 2. Seeking fun
- _____ 3. Seeking enjoyment
- _____ 4. Seeking pleasurable experiences
- _____ 5. Seeking relaxation
- _____ 6. Seeking to pursue excellence in ways that are deeply meaningful to you
- _____ 7. Seeking to develop a skill, learn, or gain insight into something you find especially meaningful
- _____ 8. Seeking to use the best in yourself
- _____ 9. Seeking to do what you believe in
- _____ 10. Seeking social status or prestige
- _____ 11. Seeking fame
- _____ 12. Seeking independence or security
- _____ 13. Seeking to look great physically
- _____ 14. Seeking to be satisfied with life

- _____ 15. Seeking to pursue excellence for the sake of being the best
- _____ 16. Seeking to develop a skill, learn, or gain insight in something that will pay you well
- _____ 17. Seeking to be perfect
- _____ 18. Seeking to perform according to the highest of people's standards

APPENDIX G

ACHIEVEMENT GOAL QUESTIONNAIRE-REVISED (AGQ-R)

Instructions: For each of the following items, please answer the extent to which you agree with the following items. Please be as accurate and as honest as you can.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

- _____ 1. My aim is to completely master the material presented in this study.
- _____ 2. I am striving to do well compared to other students.
- _____ 3. My goal is to learn as much as possible.
- _____ 4. My aim is to perform well relative to other students.
- _____ 5. My aim is to avoid learning less than I possibly could.
- _____ 6. My goal is to avoid performing poorly compared to others.
- _____ 7. I am striving to understand the content of this study as thoroughly as possible.
- _____ 8. My goal is to perform better than the other students.
- _____ 9. My goal is to avoid learning less than it is possible to learn.
- _____ 10. I am striving to avoid performing worse than others.
- _____ 11. I am striving to avoid an incomplete understanding of this study's material.
- _____ 12. My aim is to avoid doing worse than other students.

APPENDIX H
SITUATIONAL MOTIVATION SCALE (SIMS)

Instructions: Read each item carefully. Using the scale below, please circle the number that best describes the reason why you are currently engaged in this activity. Answer each item according to the following scale:

- 1: Corresponds Not At All
- 2: Corresponds A Very Little
- 3: Corresponds A Little
- 4: Corresponds Moderately
- 5: Corresponds Enough
- 6: Corresponds A Lot
- 7: Corresponds Exactly

Why are you currently engaged in this activity?

- _____ 1. Because I think that this activity is interesting
- _____ 2. Because I am doing it for my own good
- _____ 3. Because I am supposed to do it
- _____ 4. There may be good reasons to do this activity, but personally I don't see any
- _____ 5. Because I think that this activity is pleasant
- _____ 6. Because I think that this activity is good for me
- _____ 7. Because it is something that I have to do
- _____ 8. I do this activity but I am not sure if it is worth it
- _____ 9. Because this activity is fun
- _____ 10. By personal decision

- _____ 11. Because I don't have any choice
- _____ 12. I don't know; I don't see what this activity brings me
- _____ 13. Because I feel good when doing this activity
- _____ 14. Because I believe that this activity is important for me
- _____ 15. Because I feel that I have to do it
- _____ 16. I do this activity, but I am not sure it is a good thing to pursue it

APPENDIX I
ANAGRAM TASK

Instructions: In the following segment, you will be asked to perform as perfectly as possible. Try to find the best solution for each anagram in 5 minutes. You will be asked to record the time you started the anagram task, and after 5 minutes you will be asked to record the time you finished the anagram task. Your time will be monitored, but you must also record your time. After 5 minutes please scroll to the bottom of the page, record the time you finished, and move on to the next part of the study.

For this task, you will unscramble letters to generate words. You must use all letters when generating words.

ANAGRAM: IMACEHN
SOLUTION: MACHINE

[Adaptive Instructions]: Think about the exercise for what it is:

This is an opportunity to improve your creative thinking skills. Your performance will be registered, but every solution you generate for each anagram is a step toward a better performance. So, just try to generate the solution for each anagram as best you can. All that matters is that you give the task your best effort.

[Maladaptive Instructions]: Think about the exercise for what it is:

This is an evaluation of how well you perform, compared to a perfect score. In fact, your performance will be registered as one of two scores: Either a perfect score or a failing score. Every solution you do not generate for each anagram is a failure for the entire task. So, make sure you generate the best possible solution for each anagram. All that matters is that you get a perfect score on this task.

<u>ANAGRAM</u>	EUATCRAC	<u>SOLUTION</u>	ACCURATE
<u>ANAGRAM</u>	MEH	<u>SOLUTION</u>	HEM
<u>ANAGRAM</u>	TRTMISAAGE	<u>SOLUTION</u>	MAGISTRATE
<u>ANAGRAM</u>	JMA	<u>SOLUTION</u>	JAM
<u>ANAGRAM</u>	EGEDL	<u>SOLUTION</u>	LEDGE
<u>ANAGRAM</u>	APG	<u>SOLUTION</u>	GAP
<u>ANAGRAM</u>	SPTSIAAEON	<u>SOLUTION</u>	PASSIONATE
<u>ANAGRAM</u>	ENRSTI	<u>SOLUTION</u>	INSERT

<u>ANAGRAM</u>	ISDNOMASI	<u>SOLUTION</u>	ADMISSION
<u>ANAGRAM</u>	IOBNDEEEEC	<u>SOLUTION</u>	OBEDIENCE
<u>ANAGRAM</u>	IOMT	<u>SOLUTION</u>	OMIT
<u>ANAGRAM</u>	RTAORALOYB	<u>SOLUTION</u>	LABORATORY
<u>ANAGRAM</u>	LUGE	<u>SOLUTION</u>	GLUE
<u>ANAGRAM</u>	TMIN	<u>SOLUTION</u>	MINT
<u>ANAGRAM</u>	TAIB	<u>SOLUTION</u>	BAIT
<u>ANAGRAM</u>	PANVEETM	<u>SOLUTION</u>	PAVEMENT
<u>ANAGRAM</u>	TIGUL	<u>SOLUTION</u>	GUILT
<u>ANAGRAM</u>	HRPAGYEOG	<u>SOLUTION</u>	GEOGRAPHY
<u>ANAGRAM</u>	GLAMEB	<u>SOLUTION</u>	GAMBLE
<u>ANAGRAM</u>	AADQUETE	<u>SOLUTION</u>	ADEQUATE
<u>ANAGRAM</u>	EEV	<u>SOLUTION</u>	EVE
<u>ANAGRAM</u>	NGEEATL	<u>SOLUTION</u>	ELEGANT
<u>ANAGRAM</u>	ECTDONINTS	<u>SOLUTION</u>	DISCONTENT
<u>ANAGRAM</u>	ERTMHI	<u>SOLUTION</u>	HERMIT
<u>ANAGRAM</u>	ANOBDU	<u>SOLUTION</u>	ABOUND
<u>ANAGRAM</u>	NBDRFIEOD	<u>SOLUTION</u>	FORBIDDEN
<u>ANAGRAM</u>	PFLLUHE	<u>SOLUTION</u>	HELPFUL
<u>ANAGRAM</u>	KMSI	<u>SOLUTION</u>	SKIM
<u>ANAGRAM</u>	RFI	<u>SOLUTION</u>	FIR
<u>ANAGRAM</u>	ITAOINNMNO	<u>SOLUTION</u>	NOMINATION
<u>ANAGRAM</u>	RRE	<u>SOLUTION</u>	ERR
<u>ANAGRAM</u>	WSLE	<u>SOLUTION</u>	SLEW
<u>ANAGRAM</u>	SSAHRMLE	<u>SOLUTION</u>	HARMLESS
<u>ANAGRAM</u>	TUERAAEGN	<u>SOLUTION</u>	GUARANTEE
<u>ANAGRAM</u>	HRNPOA	<u>SOLUTION</u>	ORPHAN
<u>ANAGRAM</u>	OBOH	<u>SOLUTION</u>	BOOTH
<u>ANAGRAM</u>	NGOALL	<u>SOLUTION</u>	GALLON
<u>ANAGRAM</u>	ISOBHLA	<u>SOLUTION</u>	ABOLISH
<u>ANAGRAM</u>	TOTRPAI	<u>SOLUTION</u>	PATRIOT
<u>ANAGRAM</u>	IBGNOL	<u>SOLUTION</u>	GOBLIN
<u>ANAGRAM</u>	YLHMCAELON	<u>SOLUTION</u>	MELANCHOLY
<u>ANAGRAM</u>	ETRYN	<u>SOLUTION</u>	ENTRY
<u>ANAGRAM</u>	ENGAERDR	<u>SOLUTION</u>	GARDENER
<u>ANAGRAM</u>	GUB	<u>SOLUTION</u>	BUG
<u>ANAGRAM</u>	NIALTILUME	<u>SOLUTION</u>	ILLUMINATE
<u>ANAGRAM</u>	BFELA	<u>SOLUTION</u>	FABLE
<u>ANAGRAM</u>	ECHDSLUE	<u>SOLUTION</u>	SCHEDULE
<u>ANAGRAM</u>	UTBLIENL	<u>SOLUTION</u>	BULLETIN
<u>ANAGRAM</u>	ARTXCTE	<u>SOLUTION</u>	EXTRACT
<u>ANAGRAM</u>	AYTBRET	<u>SOLUTION</u>	BATTERY
<u>ANAGRAM</u>	ITANYD	<u>SOLUTION</u>	DAINTY

<u>ANAGRAM</u>	BGNA	<u>SOLUTION</u>	BANG
<u>ANAGRAM</u>	RLTIEFE	<u>SOLUTION</u>	FERTILE
<u>ANAGRAM</u>	CLIETLAREC	<u>SOLUTION</u>	ELECTRICAL
<u>ANAGRAM</u>	LGJENU	<u>SOLUTION</u>	JUNGLE
<u>ANAGRAM</u>	ALAV	<u>SOLUTION</u>	LAVA
<u>ANAGRAM</u>	KHALC	<u>SOLUTION</u>	CHALK
<u>ANAGRAM</u>	ICBSITU	<u>SOLUTION</u>	BISCUIT
<u>ANAGRAM</u>	CBA	<u>SOLUTION</u>	CAB
<u>ANAGRAM</u>	ELELBNOIR	<u>SOLUTION</u>	REBELLION
<u>ANAGRAM</u>	TEIMAPINT	<u>SOLUTION</u>	IMPATIENT
<u>ANAGRAM</u>	CGBEBAA	<u>SOLUTION</u>	CABBAGE
<u>ANAGRAM</u>	IYV	<u>SOLUTION</u>	IVY
<u>ANAGRAM</u>	ALCF	<u>SOLUTION</u>	CALF
<u>ANAGRAM</u>	OOUSSRTMN	<u>SOLUTION</u>	MONSTROUS
<u>ANAGRAM</u>	CEELX	<u>SOLUTION</u>	EXCEL
<u>ANAGRAM</u>	CMAEAR	<u>SOLUTION</u>	CAMERA
<u>ANAGRAM</u>	RLEYDEVI	<u>SOLUTION</u>	DELIVERY
<u>ANAGRAM</u>	NYATTRECI	<u>SOLUTION</u>	CERTAINTY
<u>ANAGRAM</u>	GIF	<u>SOLUTION</u>	FIG
<u>ANAGRAM</u>	TIETMIA	<u>SOLUTION</u>	IMITATE
<u>ANAGRAM</u>	GRABE	<u>SOLUTION</u>	BARGE
<u>ANAGRAM</u>	FTUHYALFLI	<u>SOLUTION</u>	FAITHFULLY
<u>ANAGRAM</u>	TRTEISNBSE	<u>SOLUTION</u>	BITTERNESS
<u>ANAGRAM</u>	EBABY	<u>SOLUTION</u>	ABBEY
<u>ANAGRAM</u>	ITCLOONA	<u>SOLUTION</u>	LOCATION

APPENDIX J

CREATIVITY TEST

Instructions: For the second part of this study, you will complete the Lange-Elliot Creativity Test. The Lange-Elliot Creativity Test is concerned with the effects of brainstorming on individual creativity. Brainstorming means coming up with as many uses for an object as possible. For this task, you will generate as many uses for an object as you can in 5 minutes.

Your time will be monitored, but you must also record your time. After 5 minutes please scroll to the bottom of the page and record the time you finished.

After you have generated as many possible uses for the object, your combined uses for the object will be summed to create a creativity score. Finally, the computer will generate normative feedback for your performance, which will be given to you at the end of the study. The normative feedback you receive is based on the pooled performance data from university students who have previously taken the Lange-Elliot Creativity Test.

[Adaptive Instructions]: Think about the exercise for what it is:

This is an opportunity to improve your creative thinking skills. Your performance will be registered, but every use you generate for the object is a step toward a better performance. So, just try to generate as many uses for the object as best you can. All that matters is that you give the test your best effort.

[Maladaptive Instructions]: Think about the exercise for what it is:

This is an evaluation of how well you perform, compared to a perfect score. In fact, your performance will be registered as one of two scores: Either a perfect score or a failing score. Every use you do not generate for the object is a failure for the entire test. So, make sure you generate all possible uses for the object. All that matters is that you get a perfect score on this test.

Instructions: Generate as many uses as possible for this object.

1. _____
2. _____
3. _____

4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____
25. _____

APPENDIX K
DEMOGRAPHIC QUESTIONNAIRE

Please provide the following demographic information.

1. Age: _____

2. Gender: Male Female

3. Ethnicity:

_____ European-American (non-Hispanic) _____ Asian-American (non-Middle-East)

_____ Hispanic-American/Chicano/a _____ Middle-East-American

_____ African-American _____ Other: _____