

PERFECTIONISM COPING FLEXIBILITY AND PSYCHOLOGICAL DISTRESS IN
COLLEGE STUDENTS

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Yiling Zhang

Dissertation Committee:

Charles Mueller, Chairperson

Kelly Vitousek

Elaine Heiby

Kentaro Hayashi

Steven Onken

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ABSTRACT

Perfectionism has received extensive research interests in recent years. While rigidity is implied in the definition of perfectionism, there have been very few studies that explored the relationship between perfectionism and rigidity. The current study examined the relationship between perfectionism and coping inflexibility (as a measure of rigidity) and whether coping inflexibility played a role in any relationships between perfectionism and positive/negative psychological outcomes.

The current study focused on two dimensions of perfectionism: self-oriented perfectionism (SOP) and socially prescribed perfectionism (SPP). Coping flexibility, in this study defined as people's ability to modify their coping according to situational demands was measured using both hypothetical scenarios and a weeklong daily diary method. Three hundred sixteen college students participated in the study. After completing a set of questionnaires online, participants reported daily negative stressors and their appraisals, coping, and positive/negative affect states at the end of the day for 7 days. The current study found no support for the relationship between SOP and coping flexibility and SOP predicted higher rates of positive affect measured two different ways. There was partial support for the relationship between SPP and coping flexibility. Higher SPP consistently predicted higher negative affect. Individuals with high SPP engaged in coping choices that did not match with the daily situational demand as measured by perceived controllability and therefore were deemed to be coping inflexibly. However, SPP was not associated with coping flexibility measured by hypothetical scenarios. Rigidity in SPP was more associated with lack of situation-strategy fit than with rigidity in appraisals of controllability or in the use of particular coping strategies across

situations. The role that coping flexibility played in the relationship between SPP and daily negative affect was implied but could not be directly examined in the current study.

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Introduction

Perfectionism is a personality trait characterized by setting overly high standards, rigidly adhering to them, and defining one's self-worth in terms of achieving these standards (Burns, 1980; Hewitt & Flett, 1991). Excessively high standards can interfere with the ability to derive satisfaction from accomplishments and people high in perfectionism often will "reappraise their standards as insufficiently demanding" (Shafran, Cooper, & Fairburn, 2002, p. 773). Due to these high standards and accompanying rigidity in pursuing them, people high in perfectionism are inclined to experience more distress and less pleasure (Burns, 1980; Hamachek, 1978).

Perfectionism has been associated with a wide range of psychiatric disorders, including depression, social anxiety, obsessive-compulsive disorder, eating disorders, narcissistic personality disorder, borderline personality disorder, and obsessive-compulsive personality disorder (Blatt, 1995; Flett & Hewitt, 2002; for a review, see Shafran & Mansell, 2001). Perfectionism is also associated with suicidal ideation and attempts in both adolescents and adults (Blatt, 1995). Furthermore, perfectionism has been found to interfere with therapeutic alliance and negatively affect therapy outcomes (Blatt & Zuroff, 2002; Blatt, Quinlan, Pilkonis, & Shea, 1995; Blatt, Zuroff, Bondi, Sanislow, & Pilkonis, 1998; Hawley, Ho, Zuroff, & Blatt, 2006). Researchers have tried to understand the mechanisms through which perfectionism impacts psychological functioning through various lenses, including immature defense styles (Flett, Besser, & Hewitt, 2005), social problem-solving (Chang, 2002; Flett, Hewitt, Blankstein, & Solnik, 1996), negative attributional style (Chang & Sanna, 2001), attachment (Rice & Mirzadeh, 2000), loneliness (Chang, Sanna, Chang, & Bodem, 2008), and silencing the

self (Flett, Besser, Hewitt, & Davis, 2007).

Stress and coping processes are one of the most studied mechanisms linking perfectionism and mental health (Bolger & Zuckerman, 1995; Dunkley & Blankstein, 2000; Dunkley, Zuroff, & Blankstein, 2003; Hewitt & Flett, 2002; Hewitt, Flett, & Endler, 1995; Rice & Lapsley, 2001; Wei, Heppner, Russell, & Young, 2006). Existing studies generally fall into one of several perspectives, each focused on somewhat different mediators. First, perfectionism can be associated with negative outcomes through stressor exposure or "the extent to which a person is likely to experience a stressful event" (Bolger & Zuckerman, 1995, p. 890). Because of unrealistic expectations, people high in perfectionism might have more "failure experiences" due to interpreting minor stressors as failures (Dunkley et al., 2003; Hewitt & Flett, 2002; Hewitt et al., 1995). Second, perfectionism can be associated with negative outcomes when people react to stressors in more magnified ways (i.e., experience more or stronger negative emotions) (Bolger & Schilling, 1991; Bolger & Zuckerman, 1995; Hewitt & Flett, 2002). Third, perfectionism can be associated with negative psychological consequences through choice of maladaptive coping strategies (Hewitt & Flett, 2002; Hewitt et al., 1995; Wei et al., 2006). Fourth, even though people high in perfectionism might choose the same coping strategies as other people, the strategies can be less effective in reducing distress or increasing positive affect (Bolger & Zuckerman, 1995; Dunkley et al., 2003).

Although the stress and coping process is seen as one of the primary ways through which perfectionism is associated with negative psychological consequences, surprisingly there have been no studies on the potential relationship between perfectionism and coping *flexibility*. In the broader context, there is growing interest in understanding

psychological flexibility as a fundamental aspect of mental health (Kashdan, 2010).

Psychological flexibility, according to Kashdan (2010), is reflected by how a person: (1) adapts to fluctuating situational demands; (2) reconfigures mental resources; (3) shifts perspective, and (4) balances competing desires, needs, and life domains (Kashdan, 2010, p. 866). A better understanding of psychological flexibility can support the development of interventions designed to increase flexibility and, in turn, improve psychological functioning (Kashdan, 2010).

Coping flexibility has received more research attention in the past years, which is consistent with the increased interest in psychological flexibility. Coping flexibility is defined as modifying one's coping according to situational demands (Folkman & Moskowitz, 2004, p. 756). To a large extent, how well a person can adapt his or her coping strategies to situational demands is thought to determine coping effectiveness. Lack of flexibility (or rigidity) is implied in the concept of perfectionism (Shafran & Mansell, 2001). Perfectionists are thought to suffer from “the tyranny of shoulds” (Horney, 1991). Their standards are excessively high and they fail to take into consideration situational constraints (Hamachek, 1978; Hewitt & Flett, 1991). For example, people high in perfectionism tend to rigidly pursue unrealistic self-standards even when faced with adverse consequences (Shafran & Mansell, 2001). It is likely that these rigid thinking styles result in rigid and ineffective reactions to stress. Nevertheless coping flexibility has not been incorporated in any current study that includes perfectionism.

In summary, perfectionists' experience of dysphoria might be due to their inability to adjust their coping strategies based on situational demands. The present study

focuses on whether perfectionism is associated with coping flexibility and if so whether any lack of coping flexibility plays a role in the relationship between perfectionism and psychological outcomes.

There are three major sections remaining in this introduction. First the construct of perfectionism and its measurement is described ending with a justification for the use of the Multidimensional Perfectionism Scale developed by Hewitt and Flett in the current study (Hewitt & Flett, 1991). These various conceptualizations and measures of perfectionism emerged together in the literature and are covered together for convenience. Second, a review of how coping flexibility is defined and measured is presented, ending with a description of the two methods to measure coping flexibility in the current study. The third section discusses relevant studies that examine perfectionism and flexibility together.

Perfectionism

Controversies around the conceptualization and measurement of perfectionism. Although perfectionism has received extensive research interest (Blatt, 1995; Enns & Cox, 2002; Shafran & Mansell, 2001), there remains controversy around its conceptualization and therefore its measurement (Enns & Cox, 2002; Shafran & Mansell, 2001). Burns described his conceptualization of a perfectionist as a person “whose standards are high beyond reach or reason ...who strains compulsively and unremittingly toward impossible goals and who measures his own worth entirely in terms of productivity and accomplishment” (Burns, 1980, p. 34). The Burns Perfectionism Scale (BPS, Burns, 1980) is one of the first quantitative measures of perfectionism. It is

unidimensional and intends to measure maladaptive characteristics of perfectionism (Burns, 1980; Enns & Cox, 2002).

After the BPS, two independent research teams developed their own conceptualizations of perfectionism along with two very different multidimensional measures of perfectionism, which have become the most widely used measures to date. Frost and his colleagues described perfectionism along six dimensions (Frost, Marten, Lahart, & Rosenblate, 1990), including Concern Over Mistakes (CM), Personal Standards (PS), Doubts about Actions (DA), Parental Expectations (PE), Parental Criticism (PC), and Organization (O, Overemphasizing the importance of order and organization). In addition to high personal standards, there is an emphasis on doubting one's performance and excessive negative reactions to mistakes due to equating mistakes with failure (Frost et al., 1990). They developed the Multidimensional Perfectionism Scale (MPS-F, Frost et al., 1990) to capture this conceptualization. Two of the six subscales are retrospective (i.e., Parental Expectations and Parent Criticism) and indicate childhood risk factors for high perfectionism. Their retrospective nature raises questions "as to whether the individual is currently perfectionist" (Shafran & Mansell, 2001, p. 886) and whether they can be sensitive to clinical changes (Shafran & Mansell, 2001). Overall, the MPS-F is a multidimensional measure of perfectionism with an intrapersonal focus (Parker & Adkins, 1995).

Hewitt and Flett proposed different dimensions in their conceptualization of perfectionism (Hewitt & Flett, 1991). They observed that perfectionism has both intrapersonal and interpersonal aspects (e.g., whether perfectionistic standards are directed inward or outward, or whether the source of these standards are internal or

external) (Hewitt & Flett, 1991). They emphasized that perfectionism's conceptualization and measurement should not focus on intrapersonal aspects only (Hewitt & Flett, 1991). Based on this conceptualization, they developed their Multidimensional Perfectionism Scale (MPS-H, Hewitt & Flett, 1991). The MPS-H has three dimensions: Self-Oriented Perfectionism (SOP, the setting of excessively high standards for oneself), Socially-Prescribed Perfectionism (SPP, the perceptions that others impose excessively high standards for oneself), and Other-Oriented Perfectionism (OOP, the setting of excessively high standards for significant others). The MPS-H has been widely used with extensive support for its reliability and validity (Enns & Cox, 2002; Shafran & Mansell, 2001). Of the three dimensions, SOP and SPP have received much more attention since the purported high standards are directed toward oneself, consistent with how perfectionism has been traditionally understood (Enns & Cox, 2002; Shafran & Mansell, 2001).

All three theoretical conceptualizations intended to focus on maladaptive features of perfectionism (Burns, 1980; Frost et al., 1990; Hewitt & Flett, 1991). However, other theorists have proposed differences between "neurotic" and "normal" perfectionism (Bieling, Israeli, & Antony, 2004; Enns & Cox, 2002; Hamachek, 1978). Normal perfectionists are described as "people who derive a very real sense of pleasure from the labors of a painstaking effort" and neurotic perfectionists are those who "never seem to do things good enough to warrant that feeling" (Hamachek, 1978, p. 27). Hamachek further described that (Hamachek, 1978, pp. 27-28):

The [neurotic perfectionists] demand of themselves a higher level of performance than is usually possible to attain. And this, of course, severely reduces their possibilities for feeling good about themselves. Normal perfectionists are better able to establish

performance boundaries that take into account both their limitations and strengths. In this way, success is more possible because self-expectations are both more reasonable and realistic. (p. 27-28).

Although not originally intended in the development or design of the two multidimensional scales of perfectionism (MPS-F, MPS-H), studies using these measures support the distinction between “positive” and “negative” perfectionism (Bieling et al., 2004; Enns & Cox, 2002; Stoeber & Otto, 2006). For example, Frost and his colleagues administered both MPS-F and MPS-H to a sample of 553 undergraduate participants and found that some subscales were directly correlated with positive affect (Frost, Heimberg, Holt, & Mattia, 1993). Further, they factor analyzed all nine subscales and achieved a “conceptually clean” two-factor solution, naming the factors maladaptive evaluation concerns (including CM, PE, PC, DA, and SPP) and positive striving (including PS, O, SOP, and OOP) (Frost et al., 1993). Similar results were found in studies using confirmatory factor analysis (Bieling et al., 2004). Consequently, some researchers regard the distinction between adaptive and maladaptive aspects of perfectionism as an important way to conceptualize and measure perfectionism. Some propose two latent dimensions for perfectionism: Personal Standards Perfectionism (PS perfectionism) and Self-critical Perfectionism (SC perfectionism) (Blankstein & Dunkley, 2002; Clara, Cox, & Enns, 2007; Dunkley & Blankstein, 2000; Dunkley et al., 2003). They use SOP in MPS-H and PS in MPS-F to indicate the latent factor of PS perfectionism. In addition, they use SPP in MPS-H, DA and CM in MPS-F, and self-criticism subscale in Depressive Experiences Questionnaire (DEQ, Blatt, D’Affitti, & Quinlan, 1976) to indicate SC perfectionism. Some strive to develop scales that can assess both positive and negative perfectionism, such as the Almost Perfect Scale developed by Slaney and colleagues

(APS, Slaney, Rice, & Ashby, 2002).

Against the trend of focusing on the multidimensional nature and the distinction between positive and negative perfectionism, Shafran and her colleagues have advocated for the construct of clinical perfectionism, which focuses only on the psychopathological form of perfectionism (Shafran et al., 2002; Shafran, Cooper, & Fairburn, 2003). They believe that there is not much clinical relevance in studying the functional pursuit of excellence (Shafran et al., 2002; Shafran et al., 2003). They also suggest that the multidimensional measures of perfectionism cover “a broader range of features than those described by clinicians and early theorists” (Shafran et al., 2002, p. 776). They argue that the additional dimensions assess related constructs and are not necessarily integral parts of perfectionism (Shafran & Mansell, 2001; Shafran et al., 2002; Shafran et al., 2003). They propose that the clinical-relevant perfectionism be defined as “the overdependence of self-evaluation on the determined pursuit of personally demanding, self-imposed, standards in at least one highly salient domain, despite adverse consequences” (Shafran et al., 2002, p. 778). They developed a 12-item Clinical Perfectionism Questionnaire (CPQ) to assess this core construct of perfectionism (Riley, Lee, Cooper, Fairburn, & Shafran, 2007). However, there has not been enough published evidence to support the psychometric status of this questionnaire even though the conceptual focus and clarity of their conceptualization is very attractive.

What has been discussed above is the conceptualization and measurement of perfectionism without particular affiliation to one particular psychological condition or disorder. Because perfectionism has been hypothesized as a major risk factor that contributes to the development of eating disorders (Barlow, 2008; Shafran et al., 2002),

it should be noted that there are perfectionism subscales developed in eating disorder assessment instruments or perfectionism scales developed in the study of eating disorders, such as the Perfectionism subscale of the Eating Disorder Inventory (EDI, Garner, Olmstead, & Polivy, 1983), the Neurotic Perfectionism Questionnaire (NPQ, Mitzman, Slade, & Dewey, 1994), and the Setting Conditions for Anorexia Nervosa Scale (SCANS, Slade & Dewey, 1986).

Hewitt and Flett's multidimensional model of perfectionism. In the current study, I used Hewitt and Flett's multidimensional conceptualization of perfectionism and chose the MPS-H (Hewitt & Flett, 1991) to measure perfectionism due to its popularity, strong psychometric qualities and its ability to distinguish between SOP and SPP.¹

SOP, the closest dimension to the traditional conceptualization of perfectionism, is defined as “an intraindividual dimension involving perfectionistic behaviors that both derive from the self and are directed toward the self.” (Hewitt & Flett, 2002, p. 256). People high in SOP experience excessively high standards as coming from within that are accompanied by stringent self-evaluations and rigidity even when these standards are clearly unreasonable and cause significant distress (Blatt, 1995; Hewitt & Flett, 2002). Overall, SOP is associated with a wide range of psychological disturbances (Blatt, 1995; Hewitt & Flett, 1991; Hewitt & Flett, 2002). It should be noted that this relationship is not consistent across studies for some psychological distress measures. As an example, depression is not found to be associated with SOP consistently across studies using student samples (Shafran & Mansell, 2001). One explanation for this inconsistency is that self-oriented perfectionism is a vulnerability factor and will lead to depression only

¹ OOP is not the focus of the current study because it is not consistent with the traditional definition of perfectionism, which emphasized high standards directed at self.

with increased level of stress (Hewitt & Flett, 1993). Along this line of thinking, there is evidence that SOP is not directly associated with depression, but interacts with achievement stress to predict depression in a psychiatric sample (Hewitt & Flett, 1993). Finally, SOP has also been found to have some positive aspects (Blatt, 1995; Flett, Hewitt, Blankstein, & O'Brien, 1991). For example, in a college student sample, SOP was associated with greater self-control and learned resourcefulness (Flett et al., 1991).

SPP involves perceiving excessively high demands upon the self as imposed by others (Hewitt & Flett, 1991; Hewitt & Flett, 2002). For both SOP and SPP, there are excessive high expectations for self (Blatt, 1995; Hewitt & Flett, 1991; Hewitt & Flett, 2002). The key difference is that in the case of SOP, the expectations are experienced as coming from within, whereas in SPP, the expectations are experienced as being externally imposed (Hewitt & Flett, 1991; Hewitt & Flett, 2002). SPP is consistently associated with a wide range of psychological problems across different studies (Blatt, 1995; Hewitt & Flett, 1991; Hewitt & Flett, 2002).

Coping Flexibility

Conceptualization and measurement of coping flexibility. Coping flexibility refers to people's ability to modify their coping according to the situational demands (Folkman & Moskowitz, 2004). Various attempts have been made to conceptualize and measure it in the field of stress and coping.

Some researchers define coping flexibility as variability in the employment of coping strategies. For example, Lester and colleagues had participants complete the Ways of Coping Questionnaire (WOC) in response to four vignettes representing different stressful situations (Lester, Smart, & Baum, 1994). The number of different coping

responses was used as an indicator of coping flexibility and was shown to be associated with psychological well-being. In another study, participants rated how they would cope (action-oriented coping, positive reappraisal, avoidance, and social support seeking) in response to 12 hypothetical situations (Williams, 2002). For each participant, the standard deviation of his or her selection of each of the four coping strategies across 12 situations was calculated. The sum of the standard deviations was seen as an indicator of coping flexibility (Williams, 2002). This measure was associated with lower depression and anxiety (Williams, 2002).

One problem with the behavioral variability approach to coping flexibility is a confusion of terms. Behavioral variability might be better thought of as a necessary but not sufficient condition for coping flexibility. To cope flexibly in a changing world, one has to employ a variety of strategies across situations *effectively or judiciously*. However, the mere employment of multiple coping strategies across stressful situations does not necessarily mean that those strategies match the situational demands or produce consistently positive results. An important aspect of coping flexibility is the ability to fit the coping strategies to the demands of situations, which is called strategy-situation fit (Folkman & Moskowitz, 2004).

For researchers, one challenge in studying strategy-situation fit is to determine how to simplify the conceptualizations of coping strategies and situational demands given that there are unlimited numbers of coping possibilities and potential stressful situations. In one common simplification, coping is categorized as problem- or emotion-focused (Lazarus, 1993). Problem-focused coping involves solving the challenge that is contributing to the stress; whereas emotion-focused coping aims to regulate emotional

reactions to the stressor.

Researchers argue that situations are better characterized in a subjective rather than an objective way (such as illness, loss of jobs) because the same situation can mean very different things to different people and how a person appraises the situation is pivotal (Folkman & Moskowitz, 2004). Subjective perceived *controllability* is the most frequently used dimension to assess situational demands (Aldwin, 2007; Folkman & Moskowitz, 2004; Vitaliano, DeWolfe, Maiuro, Russo, & Katon, 1990). Theoretically, if the situation is deemed controllable, it calls for more active, problem-focused coping and if the situation is appraised as uncontrollable, emotion-focused coping is more appropriate (Folkman & Moskowitz, 2004; Macrodimitris & Endler, 2001; Park, Folkman, & Bostrom, 2001).

Coping flexibility in the current study. Two methods were employed in the current study to assess coping flexibility. The first method employed a daily diary approach intended to overcome some limitations in the previous studies of strategy-situation fit hypothesis. First, it expanded the concept of “strategy” in situation-strategy fit beyond what is traditionally defined. Though the idea that problem-focused coping is more helpful in controllable situations and emotion-focused coping is more helpful in uncontrollable situations is intuitively appealing, the execution of the theory in studies tends to be oversimplifying. Usually researchers picked two subscales from major coping measures, which tend to contain 4-14 coping subscales and then use these two subscales to represent the broader categories of problem-focused coping and emotion-focused coping. When done across studies, measures of coping are conceptually different yet called the same thing (i.e., problem-focused coping and emotion-focused coping). For

example, Park and colleagues used Planful Problem-solving and Distancing, two subscales in the modified version of the Way of Coping (WOC, Folkman, Chesney, & Christopher-Richards, 1994), to represent problem-focused and emotion-focused coping (Park et al., 2001c). Yet, Macrodimitris and Endler used Instrumental Coping and Emotional Preoccupation from Coping With Health Injuries and Problems Scale to measure each broader construct (CHIP; Endler, Parker, & Summerfeldt, 1998; Macrodimitris & Endler, 2001b). Although there might be similarities between Planful Problem-solving and Instrumental Coping, Distancing and Emotional Preoccupation are clearly different coping strategies. Due to this confusion, it comes as no surprise that there have been inconsistent results in the examination of the strategy-situation fit hypothesis (Folkman & Moskowitz, 2004). In light of this issue and following the recommendation from Folkman to use more “refined categories of coping” (Folkman & Moskowitz, 2004), this study kept all coping factors after factor analyzing a sophisticated coping measure to reduce the number of dimensions. This way, the strategy-situation fit is derived empirically and includes all coping factors while continuing to use subjective controllability to assess situational demands.

The second limitation in previous studies is that most research was cross-sectional and examined people on only one single occasion. For example, Terry and colleagues examined the relationship between coping and women’s adjustment to a failed in vitro fertilization (IVF) attempt (Terry & Hynes, 1998). Vitaliano and colleagues asked participants to report retrospectively how they coped with a major serious stressor in their life (Vitaliano et al., 1990). In addition, most studies used between-persons designs and analyses, which do not address within-person fluctuations that are in particular important

for assessing coping flexibility from a transactional viewpoint. The transactional view of coping proposes that “coping varies within individuals, depending upon the situational context, and within contexts, depending upon individual differences” (Aldwin, 2007, p. 129). Since coping flexibility is defined as how a person adapts to fluctuating situational demands, naturally it involves “repeated transactions between people and their environment” over time and within-person fluctuations (Kashdan, 2010, p. 866). The current study adopted a diary approach and assessed daily stressors, appraisals, and coping over seven days (Bolger & Zuckerman, 1995; Bolger, Davis, & Rafaeli, 2003; Tennen, Affleck, Armeli, & Carney, 2000). There are multiple benefits in using such a design. First, hassles often account for greater variance in distress than do major stressors (Pillow, Zautra, & Sandler, 1996). Second, by using a diary design, the current study assessed appraisals, coping, and daily affect at the end of each day, which should have increased the validity of the self-report (Ptacek, Smith, Espe, & Raffety, 1994; Smith, Leffingwell, & Ptacek, 1999). Most importantly, a diary design allows the examination of both within- and between- person differences.

With all the advantages of the daily diary method of assessing coping flexibility, the subjective and variable nature of the perceived stressor can pose a potential limitation. Situational demands are assessed by perceived controllability because these demands need to be understood in context (Folkman & Moskowitz, 2004). For example, the breakdown of one’s personal car can pose quite different situational demands for a poor graduate student and for a millionaire. However, there is also the possibility that a person’s subjective evaluation of the controllability of an event might not reflect reality. For example, an individual with dependent personality features might experience little

control over events with high objective controllability (Beck, Freeman, Davis, & Associates, 2004).

In order to control for this limitation, the present research included the use of hypothetical scenarios with predetermined levels of controllability. The hypothetical scenarios were used first by Cheng (Cheng, 2003b; Cheng, 2009; Cheng, Chiu, Hong, & Cheung, 2001) as a way to measure coping flexibility. Cheng (2009) assessed coping flexibility using the Extended Miller Behavioral Style Scale (EMBSS; Cheng et al., 2001). The EMBSS includes eight hypothetical scenarios, three deemed controllable and five uncontrollable. Here, situation-appropriateness is defined as endorsing monitoring strategies in controllable scenarios and endorsing blunting strategies in uncontrollable scenarios (Cheng, 2009). Using EMBSS allows an opportunity to explore whether there is inflexibility associated with objective controllability of stressors and subsequent coping. It supplements the assessment of coping flexibility using subjective controllability, as measured in the daily diary method. However, there are obvious disadvantages in this approach of assessing coping flexibility. First, since most of the hypothetical scenarios are relatively significant stressors (e.g., early cancer diagnosis), it might be too simplistic to have only two coping categories (monitoring and blunting). Second, imagined responses to hypothetical scenarios do not necessarily match with how respondents will cope in real life. Third, at least half of the scenarios are not likely to happen in any given participant's life (e.g., plane hijacking).

Finally, supplementary aspects of coping flexibility were assessed in the current study. The reason for supplementary measures of coping flexibility is because it is possible that high strategy-situation fit can occur without actual flexibility. For example,

a person can appraise all stressors as controllable and engage in only problem-focused coping (Cheng, 2001). This coping style is inflexible, but will result in a high strategy-situation fit. The supplementary indicators of coping flexibility include variability in cognitive appraisals and variability in coping strategies. The assumption is that in one's life some stressors should be more controllable than others. If someone tends to appraise all the stressors as controllable (high average perceived controllability, low variability) or uncontrollable (low average perceived controllability, low variability), it indicates some level of rigidity. Furthermore, if certain variability is expected in the appraisals of the stressors, flexible coping will be reflected in variability in the use of coping strategies. Consistently using problem-focused coping regardless of the perceived controllability of the stressors reflects certain levels of rigidity as well.

To summarize, the current study used two ways to assess coping flexibility. The first method used a weeklong daily diary method, which constituted the longitudinal part of the study. The second method used hypothetical scenarios, which constituted the cross-sectional part of the study. Supplementary aspects of coping flexibility were also assessed.

Perfectionism and Coping Flexibility

The current study is the first to examine the relationship between perfectionism and coping flexibility². Even though inflexibility is implied in some aspects of perfectionism, only two studies have empirically explored this relationship (Egan, Piek, Dyck, & Rees, 2007; Ferrari & Mautz, 1997). Egan (2007) found that attitudinal flexibility (i.e., "the ability to perceive and adjust to new and unfamiliar surroundings

² No other studies were found based on a literature review conducted on 7/31/2012 in PSYCINFO with perfectionism and coping flexibility as keywords for any field.

and situations", Ferrari & Mautz, 1997, p. 3) predicted negative perfectionism in athletes and student samples but not in a clinical sample. Similarly, Ferrari and Mautz (1997) found significant negative correlations between attitude flexibility and SOP ($r = -.43$), SPP ($r = -.19$), and OOP ($r = -.19$) in a sample of college students. Both studies involve only attitudinal flexibility without considering a behavioral component. No study has examined the relationship between coping flexibility and perfectionism. No study has ever explored the possible role of coping flexibility in the relationship between perfectionism and psychological outcomes.

The Present Study

The purposes of the current study were two-fold: (a) to examine the relationship between dimensions of perfectionism and coping flexibility; (b) to examine whether coping flexibility plays a role in the relationship between perfectionism and psychological outcomes.

The study used two methods to assess coping flexibility. The first method used a diary approach and assessed daily stressors, subjective appraisals, and coping for seven consecutive days. Instead of oversimplifying coping, the first method used a sophisticated coping measure. The second one used hypothetical scenarios in EMBSS with predetermined objective controllability. Both methods involved assessing responses to multiple stressors.

Both negative affect (NA) and positive affect (PA) were included as outcome measures. Prior studies have focused on the negative consequences of perfectionism (Bieling et al., 2004; Shafran & Mansell, 2001). Yet, considerable evidence suggests that absence of negative outcomes does not mean presence of positive outcomes (for a

review, see Keyes, 2005). Since SOP in MPS-H taps some adaptive aspects of perfectionism, it is important to include positive outcomes in order to have a more comprehensive understanding of the relationships among perfectionism, coping flexibility, and psychological states. College students served as participants because of their availability and their increased vulnerability to psychological disturbances (Kadison & DiGeronimo, 2004; Voelker, 2003). Research based on college students has found that perfectionism is associated with higher psychological symptoms, including elevation on every subscale of the Symptom Checklist-90-R (SCL-90) (Hewitt & Flett, 1991), and general depression and anxiety measures (Frost et al., 1990). Perfectionism in college students has also been found to be associated with increased suicide risk (Chang, 1998).

Supplementary aspects of coping flexibility and their relationship with perfectionism will be examined as well. The supplementary measures of coping flexibility are of relevance to perfectionism particularly in regards to variability in perceived controllability. Conceptually perfectionists tend to hold excessively high standards for themselves but how this relates to perceived controllability is unclear. One possibility is that people high in perfectionism who believe they should meet their own standards will assume a heightened perceived controllability ("I must therefore can do this"). Alternatively, internally imposed excessive high standards might lead to a sense of consistent perceived uncontrollability (Shafran & Mansell, 2001).

Method

Participants

Participants were 324 students from the University of Hawaii at Manoa, Kapiolani Community College, and Leeward Community College. Flyers were sent to students through instructors and announcements were made in several classrooms about participating in a 7-day diary study on stress and coping. Participants were given extra credits for their participation in the study. Eight participants did not complete the initial measures and were excluded from the study. The final sample included 316 participants (220 women, 93 men, and 3 other). Their mean age was 22.73 years ($SD = 5.72$) with the median of 21 years. About one quarter (25.9%, $n = 82$) of the participants identified with more than one ethnicity. Overall, 61.4% of participants identified as Asian ($n = 194$), 37% as White ($n = 117$), 18% as Native Hawaiian or Other Pacific Islander ($n = 57$), 11.1% as Hispanic or Latino ($n = 35$), 2.5% as American Indian ($n = 8$), 1.9% as African American ($n = 6$), 0.3% as Alaska Native ($n = 1$), and 5.4% as Other ($n = 17$). A small percentage (4.4%, $n = 14$) of participants were from countries other than the US.

Procedure

All the measures in the study were completed online via SurveyMonkey. The first online survey contained measures of perfectionism, coping flexibility in hypothetical scenarios, and trait positive and negative affect. Participants were asked to complete this survey in one sitting the day before the start of the daily surveys. Once done, each participant was asked to complete a short daily online survey including measures of stressors, appraisals, coping, and positive and negative affect daily for the next seven days.

Participants who were interested in the study picked up a package containing an instruction sheet from their instructors or from Department of Psychology's main office at University of Hawaii at Manoa. Participants found their unique IDs and SurveyMonkey links on the instruction sheet. They had the option to track their daily surveys using the reminders they wrote on the instruction sheet or to be reminded via email and/or text messages from the researcher. Everyday around 7pm, an email/text message was sent to those who opted to be reminded to complete the surveys. Participants were encouraged to complete their daily surveys every evening but were advised to complete them as soon as possible the next morning if they failed to do so the previous night.

Between-individual Measures³

Multidimensional Perfectionism Scale (MPS-H). Perfectionism was assessed by Multidimensional Perfectionism Scale (MPS-H) (Hewitt & Flett, 1991). The MPS-H is a 45-item self-report measure assessing three dimensions of perfectionism: (1) Self-Oriented Perfectionism (SOP), a tendency to set excessively high standards for oneself; (2) Other-Oriented Perfectionism (OOP), a tendency of holding unrealistically high standards of performance or behavior for significant others; and (3) Socially-Prescribed Perfectionism (SPP), the perception that others hold excessively high standards for oneself. Participants provided their answers on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Research on the MPS-H in college student samples has shown that it reflects three empirically distinct dimensions, has good test-retest reliability

³ Additional measures, including Personal Goals Questionnaire (PSQ), The Abbreviated General Academic Social Hassles Scale of Students (GASHSS), the Acceptance and Action Questionnaire (AAQ), the Rosenberg Self-Esteem Scale, and the Short-Form of the Marlowe-Crowne Social Desirability Scale, were administered in the first online survey but were not part of this study and are not described here.

over a 3-month period (.88, .85, and .75 for SOP, OOP, and SPP scales, respectively), and has shown construct validity with other measures of perfectionism and psychological outcomes (Hewitt & Flett, 1991). Coefficient alphas in the present study for SOP, SPP, and OPP were .87, .79, and .72 respectively.

The Extended Miller Behavioral Style Scale (EMBSS). The EMBSS (Cheng, 2003a; Cheng, 2009; Cheng & Cheung, 2005; Cheng et al., 2001; Cheng, Hui, & Lam, 2000; Miller, 1987) is a coping flexibility measure that consists of eight hypothetical stressful situations with pre-determined levels of objective controllability (yes/no). Cheng and colleagues adopted the first four situations (i.e., Dentist, Hostage, Layoff, Plane) from the Miller Behavioral Style Scale (MBSS) and constructed four additional scenarios (i.e., Business Dinner, Ballgame, Early Cancer, and Terminal Cancer) in order to broaden the diversity of the hypothetical situations (Cheng et al., 2001; Cheng et al., 2000; Miller, 1987). Five of the scenarios were deemed controllable and three uncontrollable. In each scenario, participants were asked to vividly imagine themselves encountering the situation and then indicate which of four monitoring and four blunting strategies they would employ in handling each situation. Though not an integral part of the EMBSS, in the current study, participants were also asked to rate how much control they have over each scenario (1 = *not at all* to 7 = *completely/extremely*). The purpose of adding this question was to assess supplementary aspect of coping flexibility.

Cheng and colleagues reported the coefficient alphas for the Blunting and Monitoring subscales were .70 and .81 respectively (Cheng et al., 2000) when using Miller's original four scenarios. Regarding split-half reliability, Cheng (2003a) reported significant correlations in two studies ($r_s = .92$ and $.89$, $p_s < .001$) between split forms of

EMBSS. To date, they have reported limited reliability data for coping flexibility scoring using the EMBSS. Cheng and colleagues provided empirical support for the validity of EMBSS as a measure of coping flexibility (Cheng, 2003a; Cheng, 2009; Cheng & Cheung, 2005; Cheng et al., 2001; Cheng et al., 2000). For example, Cheng (2003a) found that coping flexibility as measured by EMBSS was positively correlated with coping flexibility measured by Coping Flexibility Questionnaire (CFQ; Cheng, 2001). In the same study (Cheng, 2003), coping flexibility as measured by EMBSS showed a significant negative correlation with anxiety. In the current study, the coefficient alphas for the Blunting and Monitoring subscales were .70 and .86 respectively.

Positive Affect Negative Affect (PANAS). Trait PA and NA were measured using the Positive and Negative Affect Schedule (PANA; Watson, Clark, & Tellegen, 1988), which was administered in the initial online survey. Participants were presented with 10 positive emotional words (e.g., interested, excited) and 10 negative emotional words (e.g., distressed, afraid) and were asked to indicate how much they felt these emotions “generally,” using a scale from 1 to 5 (1 = *very slightly or not at all*; 5 = *extremely*). Internal reliabilities for PA and NA were high across studies: Cronbach alphas ranged from .88 to .90 for PA and .84 to .87 for NA (Watson, Clark, & Tellegen, 1988; Antony, Orsillo, & Roemer, 2001). Coefficient alphas for PA and NA were .88 and .87 respectively in the current study. Consistent with previous studies (Antony, Orsillo, & Roemer, 2001), PA and NA scales were not significantly correlated ($r = -.08, p = .18$).

Daily Measures⁴

Daily stressors and appraisals. The assessment of the daily hassles and their appraisals was designed based on previous diary studies in the field of stress and coping using the same rating scales (Bolger & Zuckerman, 1995; Dunkley, Zuroff, & Blankstein, 2003). Participants were asked to give a one-sentence description of the most stressful event at the end of each day. After describing the event, participants made the following appraisals for the event: “How much control did you feel you had over handling the event or issue?” (1 = *not at all* to 7 = *completely/extremely*), “How stressful was the event or issue for you?” (1 = *not at all* to 7 = *completely/extremely*), “To what extent did you feel you handled the event or issue to your satisfaction?” (1 = *not at all* to 7 = *completely/extremely*).

The Brief COPE. The Brief COPE is the 28 item abridged version of the COPE inventory (Carver, Scheier, & Weintraub, 1989) and presents fourteen scales each assessing distinct coping dimensions: 1) Active Coping, 2) Planning, 3) Using Instrumental Support, 4) Using Emotional Support, 5) Venting, 6) Behavioral Disengagement, 7) Self-distraction, 8) Self-blame, 9) Positive Reframing, 10) Humor, 11) Denial, 12) Acceptance, 13) Religion, and 14) Substance Use (Carver, 1997; Carver et al., 1989). Participants were asked to rate the extent to which they used a particular strategy to deal with each specified stressor on a scale of 1-4 (1 = *I haven't been doing this at all* to 4 = *I've been doing this a lot*). The Brief COPE is widely used in research for its brevity and has reasonable psychometric properties for an abbreviated measure (Carver, 1997). Using a community sample of 168 participants, the internal reliabilities of

⁴ Additional measures, including the Rosenberg Self-Esteem Measure, the Perceived Changes in Self-esteem, and description of positive daily events, were administered in the daily surveys but were not part of this study and are not described here.

the 14 subscales ranged from .54 to .90, with nine scales above .60. The Cronbach alphas ranged from .75 to .94 in the current study.

Daily Positive Affect/Negative Affect. Daily positive affect and negative affect were measured using the Positive and Negative Affect Schedule (PANAS; Watson et al., 1988). In the instruction, participants were asked to rate what they felt on that day, using a scale from 1 to 5 (1 = *very slightly or not at all*; 5 = *extremely*). Cronbach alphas for aggregated data across days were .93 for PA and .95 for NA.

Data Analysis Overview

In this section I describe how coping flexibility was analyzed empirically and how the interrelationships between perfectionism, coping flexibility, and affects were explored. An overview of the data analytic approach and its rationale is described, first for the cross-sectional part of the study and then for the daily diary method.

When coping flexibility was measured using hypothetical scenarios (cross-sectional part of the study), the coping flexibility index was generated for each participant following Cheng's procedure (Cheng et al., 2001). The endorsement of an EMBSS item that matched the situation-appropriate criteria was given a score of 1 (e.g., endorsing monitoring strategies in the Early Cancer vignette, endorsing blunting strategies in the Terminal Cancer vignette), and the endorsement of an item that did not match was given a score of 0. Each individual's coping flexibility score could range from 0 to 64 with higher scores indicating greater coping flexibility. This procedure followed the strategy-situation fit hypothesis with simplified coping strategies.

The relationship between SPP, SOP, and trait PA/NA was first explored through Pearson correlations. Then the coping flexibility index was correlated with trait PA/NA,

SOP, and SPP. If coping flexibility index was significantly correlated with both perfectionism and either affect state, mediation analysis would be conducted to examine whether coping flexibility played a mediating role between perfectionism and affect (MacKinnon, Fairchild, & Fritz, 2007). Mean and variability in perceived controllability across eight scenarios (i.e., supplementary aspect of coping flexibility) were also correlated with SOP and SPP.

When coping flexibility was measured in daily stress (the diary method), daily negative stressors, perceived controllability, coping, and PA/NA were measured at the end of each day for one week. First, several preliminary analyses were conducted. A principle component analysis was conducted using aggregated daily Brief COPE data with the purpose of reducing the number of dimensions. Second, daily appraisals of controllability were recoded into a dichotomous variable (controllable and uncontrollable) in order to help with interpretation. Then relationships between perfectionism and aggregated daily PA/NA were explored through Pearson correlations. As part of these preliminary analyses, interclass correlations (see Equation 1) for daily variables used in the study were calculated using a random intercept model in multilevel modeling to examine the extent of within-person variability on stress appraisals, coping, and daily PA/NA (Heck, Thomas, & Tabata, 2010; West, Ryu, Kwok, & Cham, 2011).

$$ICC = \frac{\hat{\tau}_{00}}{\hat{\tau}_{00} + \hat{\sigma}^2} = \frac{Var(Level2)}{Var(Level1 + Level2)} \quad (1)$$

The second and the most challenging part of the analyses involved how to assess coping flexibility quantitatively in the diary study. As mentioned earlier, a significant advantage of the study was the use of multiple stressors longitudinally without oversimplifying coping strategies. The current study took into consideration the complex

nature of coping flexibility while making data analysis more challenging. Studies using one stressor normally regard the presence of an interaction between that coping strategy and perceived controllability as indicating coping flexibility (Macrodimitris & Endler, 2001b; Terry & Hynes, 1998; Vitaliano et al., 1990). When there are multiple stressors with two simple categories of coping strategies, researchers either employ an analytic strategy similar to what was used in the cross-sectional part of the study or use their own idiosyncratic ways to generate a coping index (Cheng, 2009; Cheng et al., 2001; see Park, Folkman, & Bostrom, 2001). The rationale behind the analytic strategies is that problem-focused coping is adaptive in controllable situations and emotion-focused coping is adaptive in uncontrollable situations. The current study used multiple stressors over time with more refined coping strategies. This approach makes it hard to derive a simple coping flexibility index, which allows direct exploration of the role that coping flexibility plays between perfectionism and PA and NA (e.g., mediation analysis). Furthermore, a seemingly natural extension of the previous method is to use three-way interactions between perfectionism, coping strategies, and perceived controllability. However, three-way interactions here only answer the question about differential effectiveness in coping strategies for various levels of perfectionism in controllable and uncontrollable situations instead of perfectionists' coping flexibility. Therefore it is not used in the study.

The current study used a two-step process to indirectly explore the relationship between perfectionism, coping flexibility, and affect on daily measures. The first step was intended to understand *what coping choices should be made that fit the situational demands (i.e., flexible coping)*. To answer this question, two sets of multilevel analyses were conducted with daily PA and NA as level-1 dependent variables respectively. In

each multilevel model, level-1 predictors included one coping strategy variable, perceived controllability, and their interaction (see Equation 2 for mixed model equation).⁵ The coping strategy variables were the ratios of coping strategies⁶ (as derived from the principle component analysis). The second step examined *how perfectionism affected coping choices given the situational demands*. In a series of multilevel analyses, I examined how SOP and SPP influenced daily coping choices with situational demands (as measured by perceived controllability). In the multilevel model, the Level 1 predictor of each daily coping strategy was the dummy-coded perceived controllability (uncontrollable = 0; controllable = 1). SOP or SPP was used as the Level 2 (between-persons) predictor (see Equation 3 for mixed model equation).⁷ By matching the results from the two steps, the possible role that coping flexibility played between perfectionism and PA/NA was examined indirectly. SPSS Mixed Model Module was used to fit the models in these analyses. At the end, supplementary aspects of coping flexibility and their relationships with SOP and SPP were examined through Pearson correlations.

$$Y_{ij} = \beta_0 + \beta_1(COPE)_{ij} + \beta_2(C)_{ij} + \beta_3(COPE)_{ij}(C)_{ij} + \varepsilon_{ij} + \gamma_{ij} \quad (2)$$

$$Y_{ij} = \beta_0 + \beta_1(P)_i + \beta_2(C)_{ij} + \beta_3(P)_i(C)_{ij} + \varepsilon_{ij} + \gamma_{ij} \quad (3)$$

⁵ C = Perceived Controllability; COPE = a particular coping strategy

⁶ When calculating factor scores for the Brief COPE, in order to control for the overall amount of coping in which individuals engage, Vitaliano's recommendation to use relative instead of raw scores was followed (Park, Folkman, & Bostrom, 2001b; Vitaliano et al., 1990). To obtain relative scores for each factor, the mean item score for each factor (sum of raw scores for this factor divided by the number of items in this factor) was divided by the sum of the mean item scores for each factor. This relative factor score can also be seen as the ratio of this factor to all coping effort.

⁷ P = Perfectionism, C = Perceived Controllability

Results

Perfectionism, Coping Flexibility in Hypothetical Scenarios, and Trait

Positive/Negative Affect

Descriptive analyses. Table 1 described the means, standard deviations, and intercorrelations of variables used in the cross-sectional analyses. The means of SPP and SOP were similar to the means reported by Hewitt and Flett who also used a college student sample (Hewitt & Flett, 1991). As expected, SOP and SPP were correlated ($r = .42, p < .001$). SOP was related to trait PA ($r = .29, p < .01$) but not trait NA ($r = .06, p > .05$). SPP was associated with trait NA ($r = .36, p < .001$) and inversely associated with trait PA ($r = -.12, p < .05$).

Perfectionism, coping flexibility, and trait PA and NA. Higher coping flexibility was directly associated with trait PA and inversely associated with trait NA ($r = .12$ and $-.14$ respectively, $ps < .05$). It should be noted that the strength of the two correlations was relatively low.

Coping flexibility was not significantly correlated with either SPP or SOP, $r = .03$ and $-.03$ respectively, $ps > .05$. Furthermore, neither SPP nor SOP predicted mean perceived controllability ($r = .03$ and $-.08$ respectively, $ps > .05$) or variability in perceived controllability ($r = .03$ and $-.08$ respectively, $ps > .05$). Because no significant relationships were found between any of the coping flexibility measures and perfectionism, no further mediation analyses were conducted (MacKinnon et al., 2007). In addition, neither SPP nor SOP was correlated with mean and variability in perceived controllability across the eight hypothetical scenarios, $ps > .05$.

Perfectionism, Coping Flexibility in Daily Stress, and Daily Positive/Negative Affect

Descriptive analyses. For descriptive purposes, measures of perceived stressfulness and controllability, coping, NA, and PA were averaged across the seven days. Table 2 presents means, standard deviations, and intercorrelations among these variables. The majority of the participants (71.8%) reported 7 daily stressors. A total of 2049 daily stressors were collected from 301 participants who not only completed the first online survey ($n = 316$) but also reported at least 1 daily stressor.

First, Pearson correlations were examined between SPP/SOP and aggregated daily PA/NA. SOP was correlated with aggregated daily PA ($r = 0.17, p < .01$) and NA ($r = 0.16, p < .01$). SPP presented a positive correlation with aggregated daily NA ($r = 0.32, p < .001$) and no significant correlation with PA ($r = -0.01, p > .05$).

Second, Pearson correlations were calculated between SPP/SOP and aggregated stress measures. People with high SOP tended to experience more aggregated perceived stress ($r = 0.28, p < .001$). People with high SPP experienced higher level of aggregated perceived stress ($r = 0.27, p < .001$) as well.

Preliminary analyses.

Principal Component analysis of COPE. Principal component analysis with oblique rotation (due to anticipated correlations among subscales) was performed on the aggregated daily coping data using 12 subscales of the Brief COPE⁸. The Kaiser-Meyer-Olkin measure of sampling adequacy was .87, above the recommended value of .6, and Bartlett's test of sphericity was significant, $\chi^2(276) = 6057.87, p < .001$. The first five components had eigenvalues greater than 1 and explained 72.09% of the variance. With

⁸ Substance Use and Religion subscales were not used in the current study because of low representation of these constructs in previous coping flexibility research. When included in the principal component analysis, these two subscales formed two distinct additional factors.

the additional information provided by the scree plot, a five-factor solution seemed appropriate. The factor loadings are presented in Table 3.

The first component includes all items from the Acceptance, Active Coping, and Planning subscales and was named "Acceptance and Problem Solving." The second component was composed of all items from the Self-blame, Venting, Denial, and Behavioral Disengagement subscales and is named "Negative Emotional Coping." The third component was named "Social Support", and consisted of all items from the Instrumental and Emotional Social Support subscales. The fourth component consisted of all items from the Humor and Positive Reframe subscales, which was named "Positive Reinterpretation." The last component consisted of all items from the Self-distraction subscale.

Based on the aggregated daily coping data, I calculated the Cronbach alphas for each coping subscale. The Cronbach alpha for Acceptance and Problem-solving was .91, .89 for Negative Emotional Coping, .85 for Positive Reinterpretation, .96 for Social Support, and .75 for Self-distraction. Correlations between coping subscales and other aggregated daily variables were presented in Table 2.

Recoding perceived controllability into a dichotomous variable. Perceived controllability was recoded into a dichotomous variable, where ratings equal to or less than 3 are assigned a value of 0 (uncontrollable, 38.5%) and ratings equal to or larger than 5 are assigned a value of 1 (controllable, 43.0%). Those stressors considered in the middle (rating = 4) were not included in the analyses. Independent t-tests were conducted with dichotomous controllability as the independent variable and averaged daily perceived stress and controllability as the dependent variables. Participants reported

experiencing less perceived stress in controllable ($M = 4.40$, $SD = 1.74$) than uncontrollable ($M = 4.94$, $SD = 1.83$) situations, $t = 6.17$, $p < .001$. Participants exerted similar amounts of total coping efforts in uncontrollable ($M = 53.01$, $SD = 14.16$) and controllable situations ($M = 53.23$, $SD = 13.44$, $t = -0.32$, $p = 0.75$).

Interclass correlations (ICC). Because daily assessment was nested within individuals, random intercept models were used to assess the extent to which variance in daily measures was due to between-persons or within-persons influences (Heck et al., 2010; West et al., 2011). The mixed model module in SPSS 18 was used to conduct the analysis with Restricted Maximum Likelihood (REML) estimation. An ICC was calculated for each daily measure (Heck et al., 2010; West et al., 2011). In this study, ICC describes the proportion of between-person variance and within-person variance. According to Schwartz and colleagues' rule of thumb, a strong trait or individual differences influence should be reflected in approximately 50% of the variability in daily measures being attributable to between-persons influences; a strong situational influence should be reflected in approximately 10% of the variability being due to between-persons influences; and modest to moderate trait influences should be reflected in an amount of variance due to between-persons influences between these two extremes (Schwartz, Neale, Marco, Shiffman, & Stone, 1999).

Table 4 presents the percentages of variance in daily measures of PA, NA, coping, and appraisals attributable to between- and within-person factors. The results point to strong individual (trait) differences for PA and NA (55.17% and 49.39%). Moderate individual differences were found in coping strategies (25.70% - 37.92%) and in stress appraisal variables (21.12% - 24.86%).

Flexible and effective coping choice in daily stress. In order to empirically derive situation-strategy fits (i.e., those that lead to better outcomes), a series of multilevel modeling analyses was conducted (See Table 5). Main effects indicate that the relative use of a given coping strategy or the perceived controllability of the stressor predicted daily PA or NA, respectively. Coping by perceived controllability interactions indicate the need to differentiate utilization of a given coping strategy based on perceived controllability when predicting daily PA or NA. In Table 5, estimated coefficients and standard errors from multilevel models predicting daily PA and NA from Coping Strategies, Perceived Controllability, and Coping Strategies \times Perceived Controllability are presented.

In predicting daily PA, three (of five) interactions between controllability and the coping strategies were significant. As shown in *Figure 1*, the significant main effect for Negative Emotional Coping on PA was moderated by perceived controllability. Specifically, Negative Emotional Coping predicted lower PA particularly when daily stressors were perceived as controllable. *Figure 2* indicates that the positive relationship between Social Support and PA was stronger in controllable situations. For positive reinterpretation, *Figure 3* indicates that the relationship between Positive Reinterpretation and PA was stronger when daily stressors were perceived as uncontrollable. Furthermore, in predicting PA, individuals (on average) experienced more PA on days when they reported high Acceptance and Problem-solving and less Self-distraction with respect to the most bothersome event of the day regardless of its perceived controllability (see Table 5). In predicting daily NA, the interaction between perceived controllability and Acceptance and Problem-solving was significant. As shown in *Figure 4*, the negative

relationship between Acceptance and Problem-solving and NA was stronger when daily stressors were perceived as uncontrollable. Furthermore, in the analyses predicting NA, individuals (on average) experienced more NA on days when they reported more Negative Emotional Coping and seeking Social Support with respect to the most bothersome event of the day regardless of its perceived controllability (see Table 5). Individuals (on average) experienced less NA on days when they reported more Positive Reinterpretation and Self-distraction with respect to the most bothersome event of the day regardless of its perceived controllability (see Table 5).

Impact of perfectionism on coping choices in daily stress. A series of multilevel modeling analyses were conducted examine how SOP and SPP related to coping strategy choices. Table 6 depicts estimated coefficients and standard errors from models predicting the use of each of the five coping strategies as a function of SOP. As can be seen, none of SOP's main effects or its interactions with perceived controllability was significant.

For SPP (see Table 7), results showed moderating effects of SPP on the relationships between perceived controllability and two coping strategies (Acceptance and Problem-solving and Self-distraction). The main effect of SPP on Acceptance and Problem-solving was moderated by levels of perceived controllability. The negative relationship between SPP and Acceptance and Problem-solving was stronger when stressful situations were perceived as controllable (see *Figure 5*). Regarding Self-distraction, higher levels of SPP were associated with more use of Self-distraction in controllable situations but with less use in low control situations (see *Figure 6*). In addition, higher levels of SPP were associated with relatively higher use of Negative

Emotional Coping and less use of Positive Reinterpretation regardless of perceived controllability. No particular relationships were found with SPP and perceived controllability when Social Support was the level-1 outcomes.

Perfectionism and supplementary aspects of coping flexibility in daily stress.

Cheng recommended that supplementary aspects of coping flexibility be examined in addition to strategy-situation fit (Cheng, 2001). These aspects of coping flexibility include variability in perceived controllability and in the employment of particular coping strategies across situations as indicated by standard deviations. Following her recommendation, Pearson correlations between perfectionism (SPP and SOP) and variability in perceived controllability and the five coping strategies were calculated.

First, neither SOP nor SPP were significantly correlated with variability in perceived controllability across daily stressors ($r = -.06$ and $= .08$ respectively, $ps > .05$). SOP was not correlated with mean perceived controllability ($r = -.11$, $p > .05$). SPP was negatively correlated with mean perceived controllability ($r = -.21$, $p < .01$).

Second, SOP was not significantly associated with variability across daily stressors across any of the five coping strategies ($ps > .05$). SPP had a significant positive correlation with variability in Negative Emotional Coping ($r = .16$, $p < .01$), indicating that higher SPP was associated with more variability in the use of Negative Emotional Coping across daily stressors. SPP did not correlate significantly with variability in other coping strategies, $ps > .05$.

Discussion

The present study examined coping flexibility using both hypothetical scenarios and real-life daily hassles. The study explored whether high perfectionism is associated with inflexible coping and whether this relationship helps understand the relationship between perfectionism and both PA and NA. Findings are discussed in the following order: First, the relationship between perfectionism and affect is discussed. Second, whether perfectionism is related to coping flexibility is discussed. Third, whether inflexible coping plays a role in the relationship between perfectionism and affect is discussed. Fourth, limitations and future research directions are presented.

In this study high SPP was associated with higher levels of NA (measured as a trait or when averaged over several days). These were the largest and most consistent associations between perfectionism and affect in the current study and these findings are consistent with prior research (Dunkley et al., 2003; Zuroff, Stotland, Sweetman, Craig, & Koestner, 1995). SPP showed a small but significant inverse relationship with trait PA but was unrelated to averaged daily PA. Overall, the findings suggest that higher SPP was associated with higher negative and lower positive affect.

Similar to previous studies, there was a significant inverse association between SOP and PA measured either as a trait or as a daily average (Dunkley et al., 2003; Zuroff et al., 1995). SOP was directly associated with aggregated daily NA but not with trait NA. Overall, these findings suggest that higher SOP was associated with both higher positive and higher negative affect (at least for the latter when averaged across daily situations).

Was High Perfectionism Associated with Inflexible Coping?

In hypothetical scenarios, where the perceived controllability of stressors was systematically varied, levels of SOP and SPP were unrelated to coping flexibility. These findings are inconsistent with results from the daily diary design part of the current study (discussed next). It should be noted that there are serious trade-offs in using hypothetical scenarios. Even though participants are asked to vividly imagine how they would cope, responses might not reflect actual coping propensities because the scenarios are not stressors participants have actually experienced. It is possible that people are reporting how they believe one is supposed to cope with stressors. In addition, some scenarios in EMBSS (Cheng et al., 2001) are rare in real life (e.g., airplane hijacking), which might further complicate the accuracy of the responses. Furthermore, EMBSS uses only two types of coping strategies (monitoring and blunting), which is oversimplifying, as shown in the daily diary part of this study and other previous studies where participants use a variety of coping strategies in both controllable and uncontrollable situations.

Based on results from the diary design, participants with high levels of SPP tended to choose the opposite of what has been empirically and theoretically suggested as adaptive flexible coping in response to situational demands. Specifically, participants with high SPP tended to use more Negative Emotional Coping regardless of perceived controllability. Furthermore, Negative Emotional Coping was associated with increased NA and decreased PA, particularly in controllable situations. It makes sense that it is wise to avoid engaging in Negative Emotional Coping when situations are controllable because there is room for other more flexible and effective strategies (e.g., active coping) (Wei et al., 2006). The result from this study is particularly interesting because even

though people with higher levels of SPP experienced those situations as controllable, they still tended to engage in Negative Emotional Coping. One possible explanation is that socially prescribed perfectionism is a defense against a deep-seated sense of self-deficiency (Horney, 1991), which will not be impacted by whether one perceives the situation as controllable or not.

Participants with high SPP tended to use less Acceptance and Problem-solving particularly when situations were perceived as controllable. To a certain extent, this result is consistent with previous studies indicating that high SPP individuals tend to employ less problem-focused coping (Dunkley et al., 2003). This finding suggests that people high in SPP act contrary to what has been deemed adaptive in the strategy-situation fit hypothesis (i.e., that it is important to engage in more problem-solving in controllable situations; Aldwin, 2007). In the current study, Acceptance and Problem-solving was associated with increased PA in general and decreased NA particularly in uncontrollable situations. This might be due to the fact that Acceptance and Problem-solving factored together and it might be more helpful to accept uncontrollable situations. That said, the way that participants high in SPP used Acceptance and Problem-solving did not match what was required by situational demands as measured by perceived controllability. (Folkman & Moskowitz, 2004). One hypothesis is that when situations are perceived as controllable, there is heightened pressure to cope perfectly in the context of excessively high standards, which makes it harder to engage in Acceptance and Problem-solving and leads to Negative Emotional Coping as well.⁹

⁹ In controllable situations, in the regression analysis with Acceptance and Problem-solving as dependent variable and other coping strategies as predictors, the regression model was significant, $F(4) = 126.74, p < .001$. The results indicate that after controlling for other coping

People with high SPP tended to use less Positive Reinterpretation regardless of the perceived controllability of events. This result is in keeping with previous studies (Dunkley et al., 2003; Flett et al., 1994) reporting that high SPP individuals are less likely to endorse Positive Reinterpretation. However, this study also found that it is important to engage in more Positive Reinterpretation particularly in uncontrollable situations because this tended to be associated with increased PA and decreased NA. This inability to engage in more Positive Reinterpretation even in situations where it is most needed (low controllability ones) reflects inflexibility in SPP and might be due to pervasive self-criticism and a sense of self-deficiency as a result of rigid and high standards (Blatt, 1995; Dunkley et al., 2003).

Another interesting result was that people with high SPP tended to use more Self-distraction but only in controllable situations. Previous studies have connected SPP with avoidant coping, a related but distinct strategy (Dunkley & Blankstein, 2000; Dunkley, Blankstein, Halsall, Williams, & Winkworth, 2000). The current study found that Self-distraction tended to increase PA *and* NA regardless of perceived controllability. To state it differently, to get the benefits of increased PA by using Self-distraction, participants paid the price of increased NA as well. Again, it is theoretically maladaptive for individuals with high SPP to use more self-distraction in situations they perceive as controllable. This might be associated with the decreased use of Acceptance and Problem-solving even when situations are controllable¹⁰.

strategies, more Negative Emotional Coping predicted less Acceptance and Problem-solving ($B = -.86$), $t = -20.13$, $p < .001$.

¹⁰ In regression analysis with Self-distraction as dependent variable and other coping strategies as predictors for controllable situations, the model is significant, $F(4) = 35.12$, $p < .001$. The results indicate that after controlling for other coping strategies, less Acceptance and Problem-solving predicted more Self-distraction ($B = -.38$), $t = -9.07$, $p < .001$.

Results from the diary design in the current study provided no evidence to support the relationship between SOP and coping flexibility. First, level of SOP did not predict use of any coping choice. Second, SOP did not predict coping strategies in daily stress after perceived controllability was controlled (accounted for). Third, level of SOP was not correlated with any aggregated coping strategies. These findings are inconsistent with some studies (Dunkley & Blankstein, 2000; Flett et al., 1991; Flett, Russo, & Hewitt, 1994) but consistent with others (Dunkley et al., 2003). In cross-sectional studies, SOP was found to be associated with constructive thinking (Flett et al., 1994) and problem-focused coping (Dunkley & Blankstein, 2000). In the only available diary study (Dunkley et al., 2003), PS perfectionism (with SOP as an indicator) was not correlated with aggregated situational reports of problem-focused coping. Dunkley and colleagues (2003) hypothesized that PS perfectionists might experience positive distortions in their memory of their coping efforts and the use of daily measures might “offer greater validity than do retrospective summary questionnaires” (Dunkley et al., 2003, p. 18).

All findings discussed so far examined coping flexibility from the perspective of situation-strategy fit, i.e., whether individuals can and do adjust their coping based on situational demands. Supplementary aspects of coping flexibility were also examined in this study. Neither levels of SOP nor SPP were associated with estimations of controllability for hypothetical events or daily stressors. Similarly, levels of SOP and SPP were unassociated with variability in use of different coping strategies across daily stressors. Perfectionists might tend to use a particular coping strategy in general (between-person differences), but there appears to be normal variation in their use of coping strategies across different stressors (within-person differences).

To summarize, participants high in SPP were found to engage in inflexible coping, manifested by their failure to use what has been theoretically suggested and empirically supported as flexible and effective coping choices that match with situational demands in daily stress. The relationship between SPP and coping flexibility was not supported in hypothetical scenarios. The rigidity in SPP might be more associated with lack of situation-strategy fit than with rigidity in appraisals of controllability or use of particular coping strategies across situations. No evidence of coping inflexibility was found in people with high SOP.

Did Inflexible Coping Play a Role in the Relationship Between Perfectionism and PA and NA?

The most direct test of this question was to be conducted in the hypothetical scenarios part of this study. However, coping flexibility as measured in these scenarios was unrelated to SOP or SPP and consequently could not be tested as a mediator between perfectionism and PA or NA. That said, the diary design part of the current study provided indirect support for the role that coping flexibility played between perfectionism, PA, and NA. Individuals higher in SPP tended to engage in coping choices that failed to meet the demands of the situations in daily stress. In addition, certain coping choices alone or in interaction with perceived controllability predicted PA and NA. However, the current study could not provide direct support for the mediating role of coping flexibility in the diary study because of how coping flexibility was conceptualized and measured. Specifically, while including multiple stressors with refined coping strategies in the current study provided a more nuanced approach, this decision negated

the ability to directly test the situation-strategy fit form of coping flexibility (which requires specifying exact coping and situation fits *a priori*).

Limitations and Directions for Future Studies

Coping flexibility is a highly complicated construct and the current study tried to improve its measurement by using multiple methods as well as improving existing methods. Although the incorporation of objective controllability using hypothetical scenarios in the assessment of coping flexibility and the use of a more nuanced daily diary approach together in one study is an advance compared to previous studies, there were some limitations in terms of methodology. First, since the daily measures were completed at the end of the day it is impossible to be certain about the direction of causality among variables (Dunkley, 2003). For example, it is possible that coping influenced affect and it is also possible that end-of-day affect influenced reports of stress and coping. Second, because the content of the negative stressors across days was not analyzed in the current study, the pattern of the reported stressors is unknown. It is possible that participants reported the same stressor over time, which might impact the supplementary measures of coping flexibility. Also, levels of perfectionism might have been related to choice of or exposure to specific stressors and any such patterns might mask other perfectionism effects. Third, better methods for measuring or establishing objective controllability are needed because of EMBSS' multiple major limitations. For example, experimental tasks where levels of controllability could be manipulated might provide a useful alternative because they could allow better control over the extent to which the task is possible and could allow for measures of actual coping instead of speculation about how one might cope (Cheng, 2001). Third, even though it was

suggested that coping flexibility mediates the relationship between perfectionism and psychological outcomes, because of the way in which coping flexibility was examined, this hypothesis was only indirectly examined in the diary part of the study. A better method of assessing coping flexibility is needed without sacrificing nuanced differences in coping choices. Fourth, even though perfectionism in university students is an important research pursuit, the generalizability of the results to community and clinical populations needs to be further examined.

Perfectionism, although far more extensively researched compared to coping flexibility, is a complicated and controversial construct and existing measures need to be improved. In the current study, significant results were found for SPP but not for SOP. To a large extent, this was consistent with previous studies. However, an integral part of the experience for people with high SPP is that the high standards are not driven from inside as understood in the traditionally defined perfectionism. Instead, the high standards are experienced as being imposed on oneself. Even though the inclusion of this intrapersonal dimension is important, it cannot represent those perfectionists who suffer from the impossibly high standards both derived from inside and directed at the self (e.g., cases described in Blatt, 1995). SOP was designed to assess the traditionally defined pathological perfectionism. As described in the literature review section and based on the results in the current study, it seems that SOP may capture both positive strivings and some negative sides of perfectionism. Therefore a measure that can assess “pure perfectionism” or clinical perfectionism as called by Shafran and colleagues is needed (Shafran et al., 2002).

The current study was conducted in Hawaii with participants representing diverse ethnic backgrounds. While this diversity is a strength, it remains an open question as to how well the study measures worked for such a population.

The current study was the first to examine the relationship between perfectionism and coping flexibility. The results indicate that people with high SPP seem to engage in daily coping that fails to match situational demand as measured by perceived controllability. Furthermore, high SPP was consistently associated with high negative affect. High levels of SOP appeared to provide some costs and benefits (higher PA and, at times higher NA) but seemed unrelated to coping flexibility. To make the findings more relevant to clinical applications, further research is needed to understand what mechanisms lead to specific inflexible coping choices made by individuals with high SPP, in particular those made under situations perceived as controllable.

Table 1.**Means, Standard Deviations, and Intercorrelations of Measures Used in Cross-sectional Analyses**

Measure	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. SOP	69.48	13.95	1	.42**	.03	.29**	.06
2. SPP	56.85	11.87		1	-.03	-.12*	.36**
3. EMBSS	35.31	4.87			1	.12*	-.14*
4. Trait PA	34.23	6.95				1	.07
5. Trait NA	23.36	7.38					1

Note. SOP = Self-oriented Perfectionism; SPP = Socially Prescribed; EMBSS = Extended Miller Behavioral Style Scale; PA = Positive Affect; NA = Negative Affect.

n = 316.

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

Table 2.**Means, Standard Deviations, and Intercorrelations of SOP, SPP, and Aggregated Daily Measures**

Measure	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11
1 SOP	69.48	13.95	1	.42*	.28*	-.11	.17*	.16*	.06	.04	.03	-.09	-.01
2 SPP	56.85	11.87		1	.27*	-.21*	-.01	.32*	-.13	.24*	.04	-.17*	.07
3 PS	4.69	1.02			1	-.10	.01	.42*	.08	.22*	-.03	-.26*	.00
4 PC	4.09	1.15				1	.25*	-.19*	.29*	-.38*	.01	.29*	-.03
5 PA	27.80	7.79					1	.12*	.09	-.42*	.28*	.38*	-.19*
6 NA	17.85	5.74						1	-.25*	.42*	.01	-.24*	-.02
7 APS	0.28	0.04							1	-.49*	-.29*	-.04	-.09
8 NEC	0.24	0.04								1	-.29*	-.50*	-.02
9 SS	0.14	0.03									1	.07	-.17*
10 PR	0.14	0.03										1	-.17*
11 SD	0.08	0.02											1

Note. PS = Perceived Stressfulness; PC = Perceived Controllability; APS = Acceptance and Problem-solving; NEC = Negative Emotional Coping; SS = Social Support; PR = Positive Reinterpretation, SD = Self-distraction

* $p < .01$. Two-tailed

Table 3.**Factor Loadings in the Principal Component Analysis of Brief COPE with Oblique Rotation**

Items in Brief COPE	Component				
	APS	NEC	SS	PR	SD
7. taking action to try to make the situation better.	.85				
14. trying to come up with a strategy about what to do.	.84				
25. thinking hard about what steps to take.	.83				
2. concentrating my efforts on doing something about the situation I'm in.	.79				
20. accepting the reality of the fact that it has happened.	.69				.31
24. learning to live with it.	.58				.40
12. trying to see it in a different light, to make it seem more positive.	.48		.44	.43	
16. giving up the attempt to cope.		.79			
13. criticizing myself.		.79			
26. blaming myself for things that happened.		.76			
8. refusing to believe that it has happened.		.75		.32	
6. giving up trying to deal with it.		.75			
3. saying to myself "this isn't real".		.73		.34	
21. expressing my negative feelings.		.58			

Table 3 (continued). Factor Loadings in the Principal Component Analysis of Brief COPE with Oblique Rotation

Items in Brief COPE	APS	NEC	SS	PR	SD
9. saying things to let my unpleasant feelings escape.		.57			.36
10. getting help and advice from other people.			.87		
15. getting comfort and understanding from someone.			.85		
5. getting emotional support from others.			.84		
23. trying to get advice or help from other people about what to do.			.82		
18. making jokes about it.				.84	
28. making fun of the situation.				.81	
17. looking for something good in what is happening.	.47		.39	.55	
19. doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.					.80
1. Today I've been turning to work or other activities to take my mind off things.					.77

Note. APS = Acceptance and Problem-solving; NEC = Negative Emotional Coping; SS = Social Support; PR = Positive Reinterpretation, SD = Self-distraction.

Only loadings equal to or larger than .30 were listed.

Table 4.

Percentages of Between- and Within-Person Variability in the Daily Measures of Positive Affect, Negative Affect, Coping, and Appraisals

Category	Measure	% variance	
		Between-person (ICC)	Within-person
Affect	Positive Affect	55.17	44.83
	Negative Affect	49.39	50.61
Coping	Acceptance and Problem-solving	37.92	62.08
	Negative Emotional Coping	38.09	61.91
	Positive Reinterpretation	30.51	69.49
	Social Support	33.83	66.17
	Self-distraction	25.70	74.30
Stress	Perceived controllability	24.86	75.14
Appraisals	Perceived stress	22.22	77.78
	Perceived coping effectiveness	21.12	78.88

Table 5.**Estimated Coefficients (and Standard Errors) from Models Predicting PA and NA from Coping Strategies, Perceived Controllability, and Coping Strategies \times Perceived Controllability**

Model	Level 1 Predictors	Positive Affect	Negative Affect
1	APS	19.19* (4.94)	- 22.84*** (3.99)
	Perceived Controllability	1.93 (2.09)	-6.89*** (1.69)
	APS \times Perceived Controllability	-0.35 (6.39)	15.31** (5.17)
2	NEC	-32.20*** (4.60)	40.03*** (3.64)
	Perceived Controllability	5.06** (1.69)	-0.77 (1.34)
	NEC \times Perceived Controllability	-15.56* (6.71)	-2.19 (5.32)
3	SS	15.13* (6.61)	11.74* (5.37)
	Perceived Controllability	-.46 (1.30)	-1.28 (1.06)
	SS \times Perceived Controllability	19.78* (8.87)	-7.12 (7.21)
4	PR	68.30*** (8.90)	-50.18*** (7.16)
	Perceived Controllability	4.06** (1.26)	-2.53* (1.02)
	PR \times Perceived Controllability	-22.04* (11.59)	5.80 (9.34)

Table 5 (Continued). Estimated Coefficients (and Standard Errors) from Models Predicting PA and NA from Coping Strategies, Perceived Controllability, and Coping Strategies × Perceived Controllability

Model	Level 1 Predictors	Positive Affect	Negative Affect
5	SD	-26.30** (9.35)	-25.03** (7.57)
	Perceived Controllability	3.17** (1.14)	-2.93** (0.92)
	SD × Perceived Controllability	-12.03 (12.43)	6.97 (10.06)

Note. PC = Perceived Controllability; APS = Acceptance and Problem-solving; NEC = Negative Emotional

Coping; SS = Social Support; PR = Positive Reinterpretation, SD = Self-distraction. All predictors are level-1 variables.

Standard errors are in parentheses. Regression coefficients are unstandardized.

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

Table 6.

Estimated Coefficients (and Standard Errors) from Models Predicting Choice of Coping Strategies from Perceived Controllability, SOP, and SOP × Perceived Controllability

Level 1 Outcome variables	Controllability	SOP	SOP × Controllability
Acceptance and Problems-Solving	2.6869 (1.4680)	0.0205 (0.0203)	-0.0134 (0.0208)
Negative Emotional Coping	0.0035 (1.4452)	0.0293 (0.0198)	- 0.0379 (0.0205)
Social Support	-1.5582 (1.0943)	-0.0060 (0.0148)	0.0188 (0.0155)
Positive Reinterpretation	0.2171 (1.0002)	-0.0229 (0.0129)	0.0143 (0.0142)
Self-distraction	-0.7625 (0.8240)	-0.0045 (0.0102)	0.0086 (0.0117)

Note. Standard errors are in parentheses. Regression coefficients are unstandardized. SOP × Controllability is cross-level interaction parameters.

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

Table 7.

Estimated coefficients (and Standard Errors) from models predicting choice of coping strategies from Perceived Controllability, SPP, and SPP × Perceived Controllability

Level 1 Outcome variables	Controllability	SPP	SPP × Controllability
Acceptance and Problems-Solving	4.6352** (1.3367)	- 0.0235 (0.0226)	- 0.0521* (0.0232)
Negative Emotional Coping	-2.3060 (1.3172)	0.0758** (0.0219)	- 0.0045 (0.0228)
Social Support	-0.6016 (1.0000)	0.0093 (0.0167)	0.0064 (0.0173)
Positive Reinterpretation	0.0732 (0.9147)	-0.0388** (0.0144)	0.0197 (0.0158)
Self-distraction	-2.5316** (0.7533)	-0.0107 (0.0114)	0.0421** (0.0130)

Note. Standard errors are in parentheses. Regression coefficients are unstandardized. SPP × Controllability is cross-level interaction parameters.

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

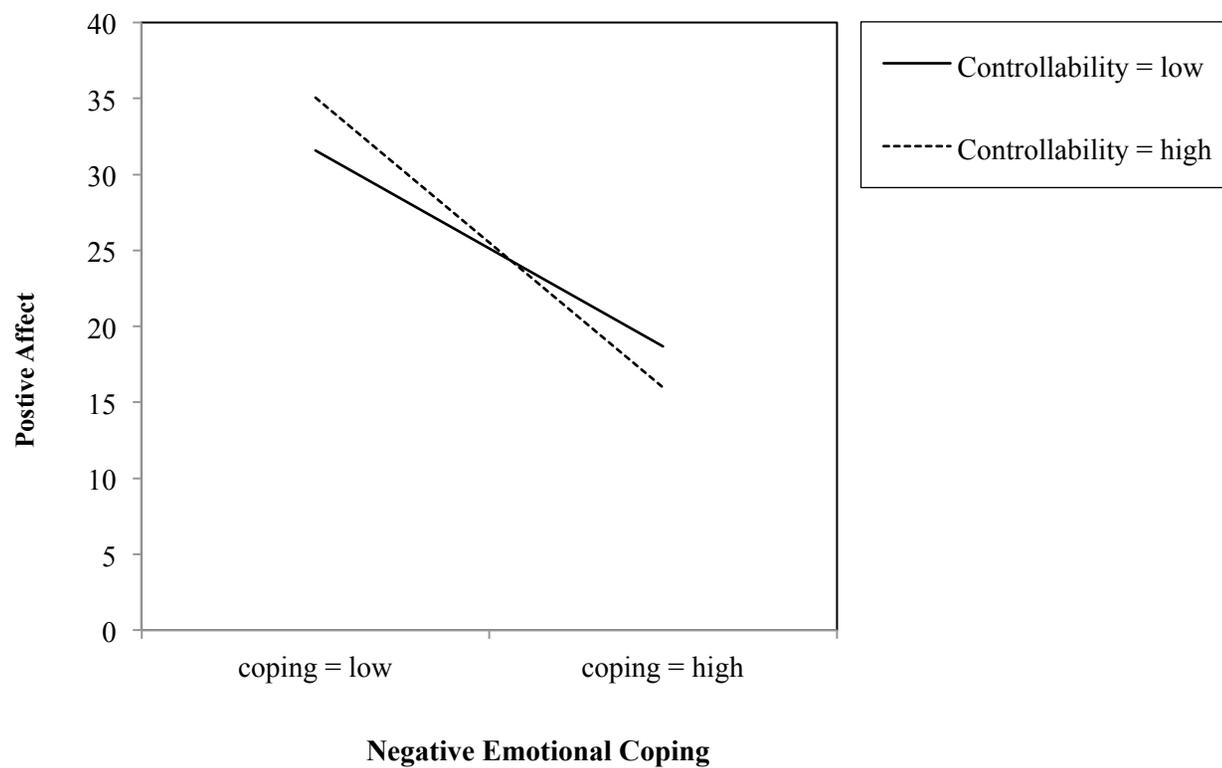


Figure 1. Negative Emotional Coping and Positive Affect in Daily Stress

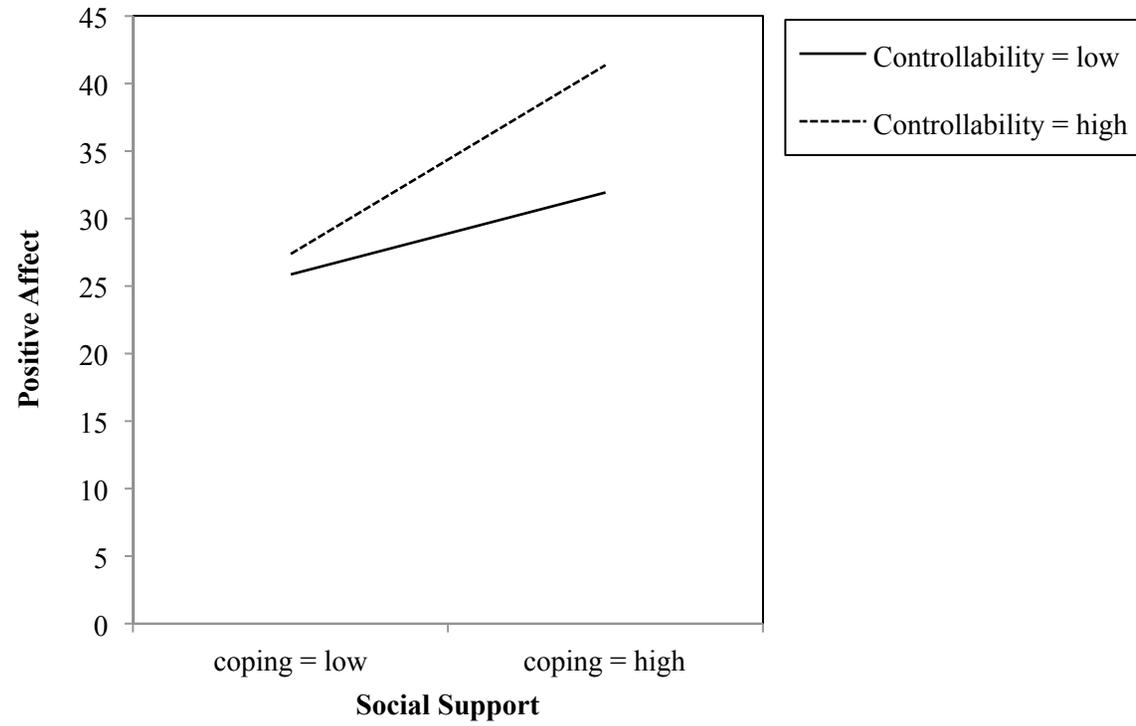


Figure 2. Social Support and Positive Affect in Daily Stress

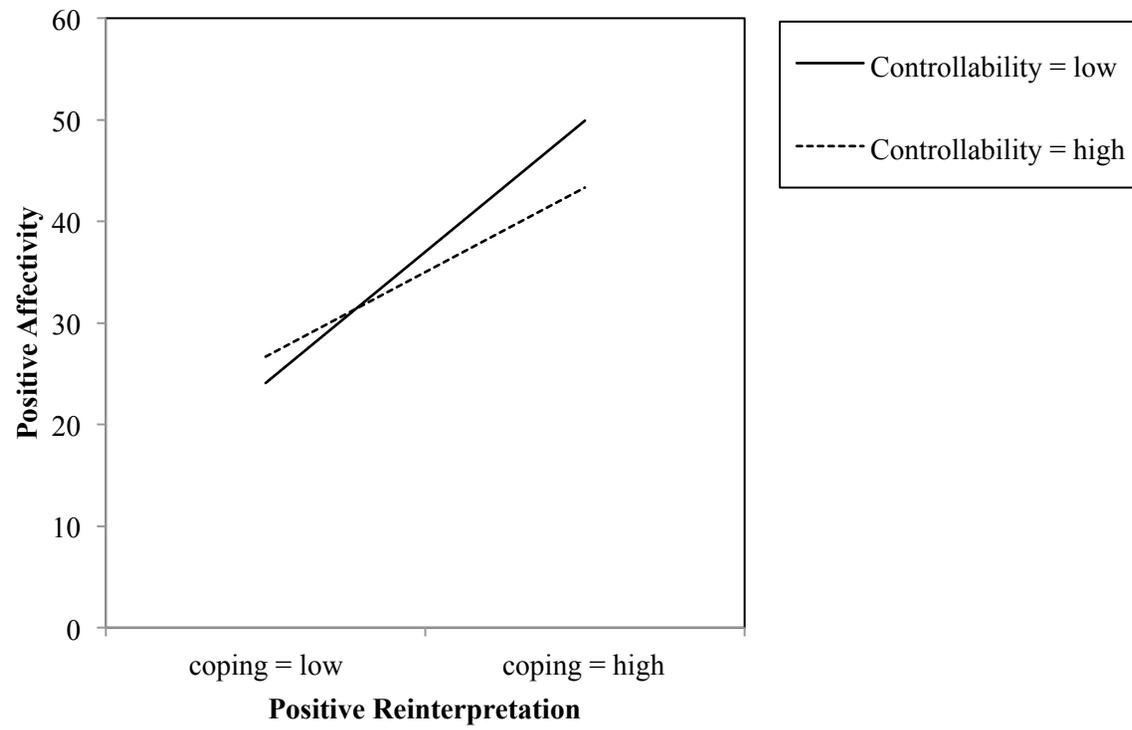


Figure 3. Positive Reinterpretation and Positive Affect in Daily Stress

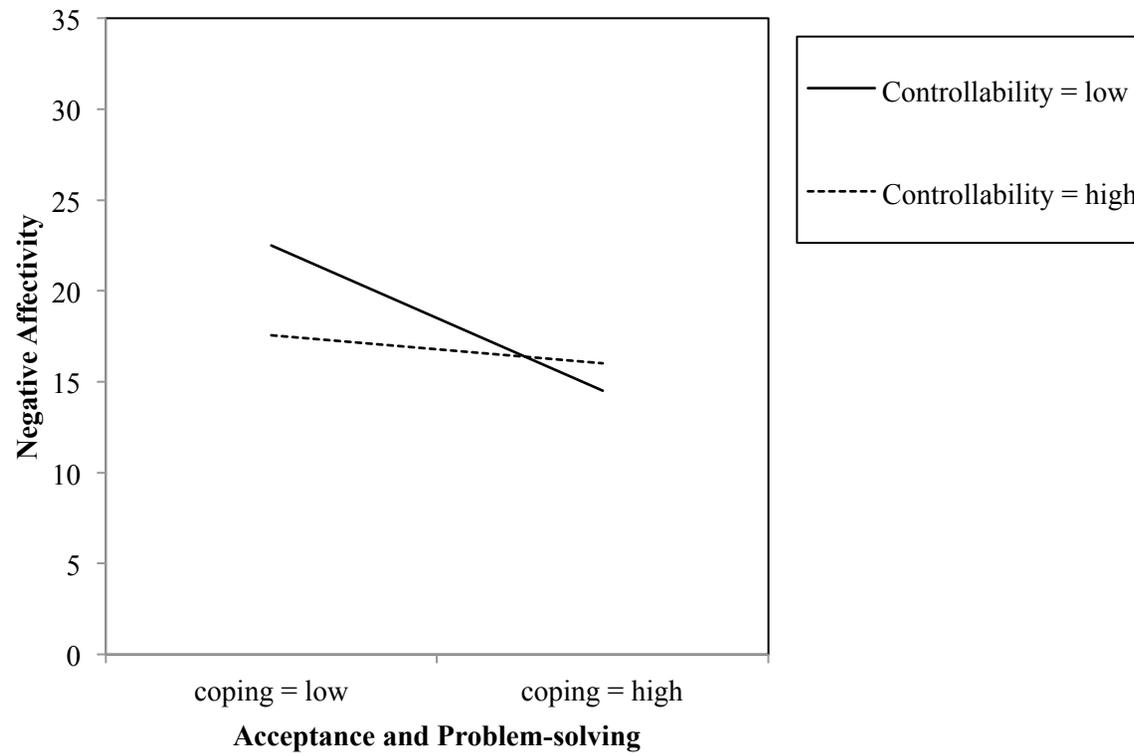


Figure 4. Acceptance and Problem-solving and Negative Affect in Daily Stress

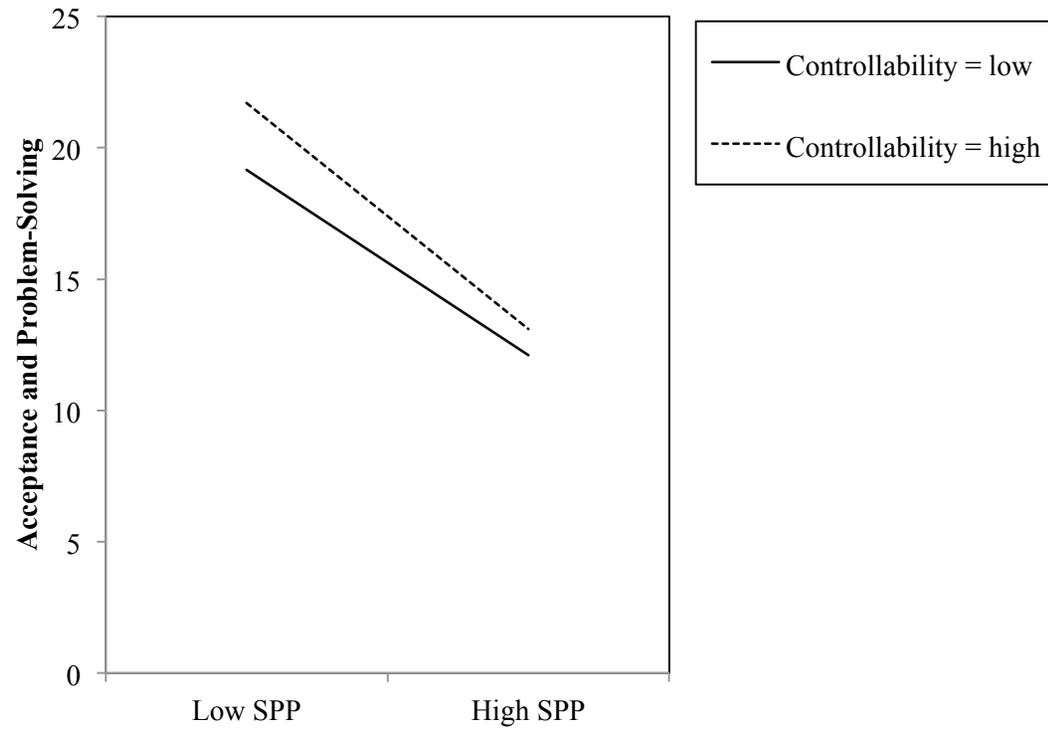


Figure 5. Interaction between SPP and Acceptance and Problem-Solving

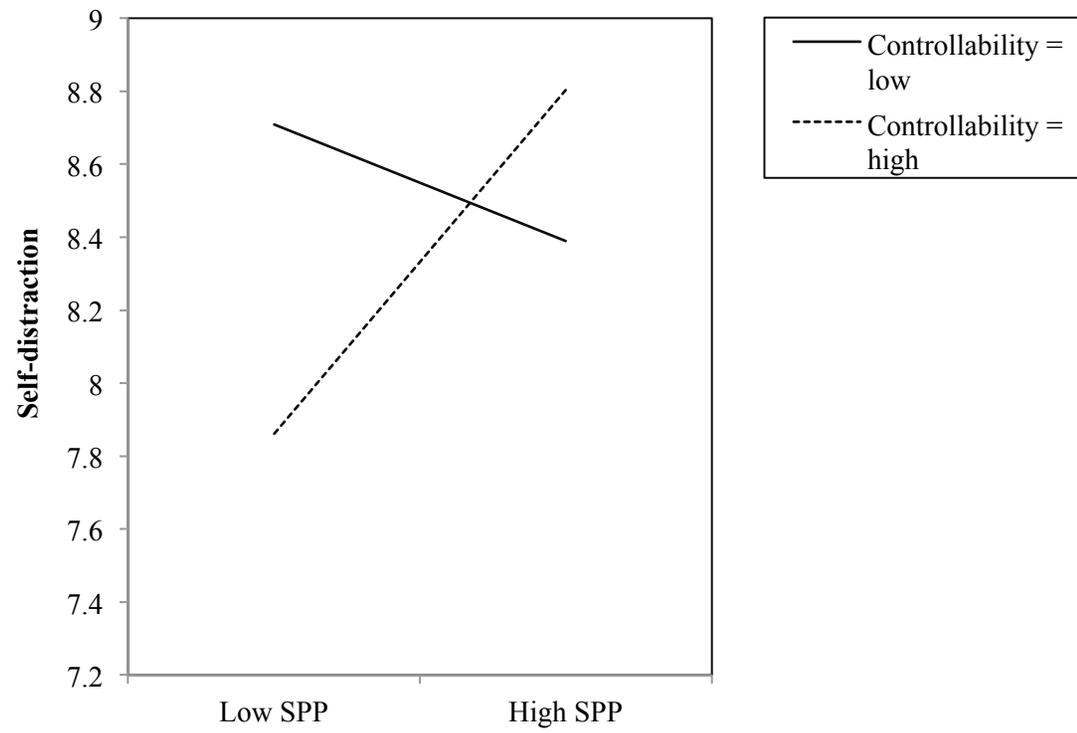


Figure 6. Interaction between SPP and Self-distraction

Appendix A

Demographic Information¹¹

1. To protect your confidentiality, each participant is given a unique ID, which can be found on the Instruction Sheet in the envelope (next to Step 1). It also helps us connect different surveys completed by you. Therefore it is important to keep the information accurate and consistent.

Please write down your unique ID here _____

2. Today's Date (MM/DD/YYYY): _____
3. Age (years): _____
4. What is your gender?

Female Male Transgender Other

5. What ethnic group do you consider yourself? You may select more than one.

Alaska Native

American Indian

Asian

Black or African American

Hispanic or Latino

Native Hawaiian or other Pacific Islander

White

Other

6. Are you an international student?

Yes No

¹¹ Due to copyright, the Multidimensional Perfectionism Scale by Hewitt and Flett (MPS-H) is not listed in the appendix.

Appendix B

EMBSS

Different people tend to respond in different ways when faced with difficult or threatening situations. The following eight scenarios describe eight difficult situations. Please consider each scenario and indicate how you think you would react (NOT the best way to react). Check the strategies you think you would use.

For each scenario, first answer how much control (the amount of aspects you consider you can change) you feel you have over handling this scenario?

1 2 3 4 5 6 7

1 = not at all; 7 = complete control

1. Vividly imagine that you are afraid of the dentist and have to get some dental work done.

How much control (the amount of aspects you consider you can change) do you feel you have over handling the scenario? _____

1. I would ask the dentist exactly what he was going to do.
2. I would take a tranquilizer or have a drink before going.
3. I would try to think about pleasant memories.
4. I would ask the dentist to let me know when I would feel pain.
5. I would try to sleep.
6. I would watch all the dentist's movements and listen for the sound of the drill.
7. I would watch the flow from my mouth to see if it contained blood.
8. I would do mental puzzles in my mind.

2. Vividly imagine that you are being held hostage by a group of armed terrorists in

a public building.

How much control (the amount of aspects you consider you can change) do you feel you have over handling the scenario? _____

1. I would sit by myself and have as many daydreams and fantasies as I could.
2. I would stay alert and try to keep myself from falling asleep.
3. I would exchange life stories with the other hostages.
4. If there was a radio present, I would stay near it and listen to the bulletins about what the police were doing.
5. I would watch every movement of my captors and keep an eye on their weapons.
6. I would try to sleep as much as possible.
7. I would think about how nice it's going to be when I get home.
8. I would make sure I knew where every possible exit was.

3. Vividly imagine that, due to a large drop in sales, it is rumored that several people in your department at work will be laid off. Your supervisor has turned in an evaluation of your work for the past year. The decision about lay-offs has been made and will be announced in several days.

How much control (the amount of aspects you consider you can change) do you feel you have over handling the scenario? _____

1. I would talk to my fellow workers to see if they knew anything about what the supervisor's evaluation of me said.
2. I would review the list of duties for my present job and try to figure out if I had fulfilled them all.

3. I would go to the movies to take my mind off things.
4. I would try to remember any arguments or disagreements I might have had with the supervisor that would have lowered his opinion of me.
5. I would tell my spouse that I'd rather not discuss my chances of being laid off.
6. I would push all thoughts of being laid off out of my mind.
7. I would try to think which employees in my department the supervisor might have thought had done the worst job.
8. I would continue doing my work as if nothing special was happening.

4. Vividly imagine that you are on an airplane, 30 minutes from your destination, when the plane unexpectedly goes into a deep dive and then suddenly levels off. After a short time, the pilot announces that nothing is wrong, although the rest of the ride may be rough. You, however, are not convinced that all is well.

How much control (the amount of aspects you consider you can change) do you feel you have over handling the scenario? _____

1. I would carefully read the information provided about safety features in the plane and make sure that I knew where the exits were.
2. I would make small talk with the passenger beside me.
3. I would watch the end of the movie, even if I had seen it before.
4. I would call the flight attendant and ask him/her exactly what the problem was.
5. I would order a drink from the stewardess.
6. I would listen carefully to the engines for unusual noises and would watch

the crew to see if their behavior was out of the ordinary.

7. I would talk to the passenger beside me about what might be wrong.

8. I would settle down and read a book or magazine or write a letter.

5. Vividly imagine that your supervisor and you attend a business dinner. You have not attended this kind of formal dinner before. You realize that you do not know any guests who attend the dinner.

How much control (the amount of aspects you consider you can change) do you feel you have over handling the scenario? _____

1. I would observe how other people socialize in the party.

2. I would observe whether my behaviors are appropriate.

3. I would sit in a quiet corner and pretend not to see anyone.

4. I would observe how my supervisor interacts with other guests.

5. I would focus my attention on the food.

6. I would observe my supervisors' response to me in order to evaluate my performance.

7. I would have one or two drinks in order to relax myself.

8. I would tell myself that this is only a dinner and would avoid thinking about anything work-related.

6. Vividly imagine that you have to participate in a very important ballgame. The outcome of the ballgame will have a huge impact on your team's reputation. Your team has been widely expected to be the champion. The audience cheers your team loudly in the stadium.

How much control (the amount of aspects you consider you can change) do you feel you

have over handling the scenario? _____

1. I would judge my performance in the game according to boos of the audience.
2. I would observe whether other team members are dissatisfied with my performance.
3. I would judge my performance in the game according to the cheers of the audience.
4. I would ignore the audience's reactions.
5. I would observe whether my form while playing is correct.
6. I would think of this ballgame as a regular practice.
7. I would ignore the cheers of the audience.
8. I would avoid thinking about the impact of this game's outcome.

7. Vividly imagine that you go to the clinic to get a check-up. The doctor tells you that you have early stomach cancer, which can be controlled by medication.

How much control (the amount of aspects you consider you can change) do you feel you have over handling the scenario? _____

1. I would pay more attention to my diet and nutrition.
2. I would pay attention to any signs of deteriorating health.
3. I would often consult with the doctors about my condition.
4. I would ask the doctor about what symptoms would be present if the condition deteriorates.
5. I would take medication in order to fall asleep.
6. I would try to numb myself using various means.
7. I would try to do things that could cheer me up.

8. I would avoid thinking of the cancer and make myself busy with other things.

8. Vividly imagine that you have had stomach cancer for a long time. One day your doctor tells you that your cancer has reached a terminal stage and asks you to enjoy the rest of your life.

How much control (the amount of aspects you consider you can change) do you feel you have over handling the scenario? _____

1. I would pay more attention to my diet and nutrition.

2. I would pay attention to any signs of deteriorating health.

3. I would often consult with the doctors about my condition.

4. I would ask the doctor about what symptoms would be present if the condition deteriorates.

5. I would take medication in order to fall asleep.

6. I would try to numb myself using various means.

7. I would try to do things that could cheer me up.

8. I would avoid thinking of the cancer and make myself busy with other things.

Appendix C

PANAS

Instruction for trait PANAS: This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what degree you feel this way on average. Use the following scale to record your answer.

Instruction for daily PANAS: Indicate to what extent you feel this way TODAY. Use the following scale to record your answer.

1	2	3	4	5
Very slightly or not at all	A little	Moderately	Quite a bit	Extremely
Interested	Guilty	Irritable	Determined	
Distressed	Scared	Alert	Attentive	
Excited	Hostile	Ashamed	Jittery	
Upset	Enthusiastic	Inspired	Active	
Strong	Proud	Nervous	Afraid	

Appendix D

Daily Stressors and appraisals

Now take a moment to think about what happened today. **Briefly describe your most difficult/bothersome event/problem of today:**

In regards to your most difficult/bothersome event/problem of today, circle or check a suitable answer for each item.

How much control did you feel you had over handling the event or issue?

1 2 3 4 5 6 7

How stressful was the event or issue for you?

1 2 3 4 5 6 7

1 = not at all; 7 = completely/extremely

Appendix E

The Brief COPE

1. The following items ask **what you've been doing to cope with this most difficult/bothersome event**. I want to know to what extent you've been doing what the item says. How much or how frequently. **Don't answer on the basis of whether it seems to be working or not—just whether or not you're doing it**. Use these response choices. Make your answers as true FOR YOU as you can. Circle or check the suitable number for each item.

1 = I haven't been doing this at all;

2 = I've been doing this a little bit;

3 = I've been doing this a medium amount;

Today, I've been...

4 = I've been doing this a lot

1. turning to work or other activities to take my mind off things.	1	2	3	4
2. concentrating my efforts on doing something about the situation I'm in.	1	2	3	4
3. saying to myself "this isn't real".	1	2	3	4
4. using alcohol or other drugs to make myself feel better.	1	2	3	4
5. getting emotional support from others.	1	2	3	4
6. giving up trying to deal with it.	1	2	3	4
7. taking action to try to make the situation better.	1	2	3	4
8. refusing to believe that it has happened.	1	2	3	4
9. saying things to let my unpleasant feelings escape.	1	2	3	4
10. getting help and advice from other people.	1	2	3	4
11. using alcohol or other drugs to help me get through it.	1	2	3	4
12. trying to see it in a different light, to make it seem more positive.	1	2	3	4
13. criticizing myself.	1	2	3	4
14. trying to come up with a strategy about what to do.	1	2	3	4
15. getting comfort and understanding from someone.	1	2	3	4
16. giving up the attempt to cope.	1	2	3	4
17. looking for something good in what is happening.	1	2	3	4

1 = I haven't been doing this at all;
2 = I've been doing this a little bit;
3 = I've been doing this a medium amount;
4 = I've been doing this a lot

Today, I've been...

18. making jokes about it.	1	2	3	4
19. doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.	1	2	3	4
20. accepting the reality of the fact that it has happened.	1	2	3	4
21. expressing my negative feelings.	1	2	3	4
22. trying to find comfort in my religion or spiritual beliefs.	1	2	3	4
23. trying to get advice or help from other people about what to do.	1	2	3	4
24. learning to live with it.	1	2	3	4
25. thinking hard about what steps to take.	1	2	3	4
26. blaming myself for things that happened.	1	2	3	4
27. praying or meditating.	1	2	3	4
28. making fun of the situation.	1	2	3	4

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