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Emotional Expression and Positive Affect in Latina and non-Latina White Women Coping with Chronic Financial Stress

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A dissertation submitted in partial satisfaction of the requirements for the degree

Doctor of Philosophy in Psychology

by

Patricia Ingrid Moreno

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ABSTRACT OF THE DISSERTATION

Emotional Expression and Positive Affect in Latina and non-Latina White Women Coping with Chronic Financial Stress

by

Patricia Ingrid Moreno

Doctor of Philosophy in Psychology

University of California, Los Angeles, 2016

Professor Annette Louise Stanton, Chair

The aim of this dissertation was to examine emotional expression and positive affect in a sample of Latina and non-Latina white female undergraduate students at UCLA experiencing chronic financial stress. In order to assess the influence of dispositional emotional tendencies, stressor-specific coping, and cultural factors on outcomes of induced emotional expression, the first study examined the main and moderated effects of induced emotional expression on depressive symptoms, intrusive thoughts, negative affect, and positive affect. The second study examined a unifying model in order to elucidate possible pathways by which positive affect is sustained over time in the context of chronic stress through its relationship with dispositional emotional tendencies and stressor-specific coping. Method: After being screened to establish at least moderate chronic financial stress, women (*N* = 136) were randomly assigned to discuss the emotions regarding their financial stress (induced emotional expression) or the facts

regarding their finances (control) during two laboratory sessions. Depressive symptoms, intrusive thoughts, negative and positive affect were assessed at baseline and one- and ten-week follow-ups. Study 1 Results: Multilevel modeling analyses demonstrated that approach-oriented dispositional and stressor-specific processes predicted better psychological adjustment over time, whereas avoidance-oriented processes predicted greater distress over time. Stressor-specific coping self-efficacy uniquely predicted better psychological adjustment across all four outcomes. There was no significant main effect of condition; however, the effect of condition was moderated by dispositional and stressor-specific factors. Induced emotional expression predicted lower distress across time than the control condition at high levels of avoidance processes and predicted greater positive affect across time than the control condition at low, mean, and high levels of stressor-specific coping self-efficacy and approach processes, with the magnitude of this effect increasing at higher levels of these processes. Study 2 Results: Path model analyses demonstrated that dispositional emotional acceptance and reflection were associated with higher baseline positive affect, which in turn was associated with greater stressor-specific coping self-efficacy. Both baseline positive affect and stressor-specific coping self-efficacy predicted greater positive affect at one week, which subsequently predicted greater positive affect at ten weeks. Conclusions: Findings suggest that induced emotional expression both counteracts engagement in avoidance-oriented processes to reduce distress and capitalizes on stressor-specific coping self-efficacy and approach-oriented processes to increase positive affect. Furthermore, stressor-specific coping self-efficacy predicts better psychological adjustment across time and specifically plays a role in the sustenance of positive affect over time in the context of chronic stress. Taken together, the two studies underline potential benefits associated with stressor-specific coping self-efficacy in young women coping with chronic financial stress and suggest that it may be a good target for intervention.

The dissertation of Patricia Ingrid Moreno is approved.

Julienne E. Bower

Michelle Craske

Jeanne Miranda

Annette Louise Stanton, Committee Chair

University of California, Los Angeles,

2016

This dissertation is dedicated to my parents, thank you for the incredible opportunities.

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Acknowledgments

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Moreno, P. I., Moskowitz, A. L., Ganz, P. A., & Bower, J. E (2016). Positive affect and inflammatory activity in breast cancer survivors: Examining the role of affective arousal. *Psychosomatic Medicine.*

Moreno, P. I., Wiley, J., & Stanton, A. L. (under review).Coping through emotional approach: Emerging evidence for the utility of processing and expressing emotions in responding to stressors. In S. J. Lopez & C. R. Snyder (Eds.) *Oxford Handbook of Positive Psychology* (3rd ed.). New York: Oxford University Press.

Yanez, B., Maggard-Gibbons, M., Moreno, P. I., Jorge, A., & Stanton, A. L. (under review). Predictors of psychological outcomes in a longitudinal study of Latina Breast Cancer Survivors. *Psychology & Health.*

Moreno, P. I. & Stanton, A. L. (2013). Personal growth in patients with advanced cancer: A systematic review. *The Cancer Journal, 19*(5), 421-430.

Select Conference Activities

Moreno, P. I., Bauer, M. R., Yanez, B., Jorge, A., & Stanton. A. L. (2015). *Dispositional expressivity, cancer-specific coping, and distress in socioeconomically-disadvantaged Latina breast cancer patients*. Poster presented at the Society of Behavioral Medicine Annual Meeting, San Antonio, Texas.

Moreno, P. I., Bower, J. E, Moskowitz, A. L. & Ganz, P. A. (2013). *Positive affect prospectively predicts lower inflammatory marker in breast cancer survivors*. Presenter. Symposium presented at the International Health Psychology Conference, Santiago, Chile.

Moreno, P. I. & Smith, T. W. (2013). *Fostering effective mentorship across graduate school, internship, and post-doctoral training*. Co-Chair. Division 38 symposium presented at the American Psychological Association Annual Convention, Honolulu, Hawaii.

Moreno, P. I. & Garcini, L. M (2013) Ethnic minority students in clinical psychology doctoral training programs: Rewards and challenges in M. D. Ulibarri (Chair), *Effective recruitment and retention of underrepresented ethnic minorities in psychology*. Division 45 symposium presented at the American Psychological Association Convention, Honolulu, Hawaii.

Garcini, L. M. & Moreno, P. I. (2012). *Diversifying health psychology: Increasing representation and retention of minorities within the field*. Co-Chair. Division 38 panel presented at the American Psychological Association Annual Convention, Orlando, Florida.

General Introduction

The overarching aim of this dissertation was to examine emotional expression and positive affect in in a sample of Latina and non-Latina White female UCLA undergraduate students experiencing chronic financial stress. The first randomized, controlled experiment examined the main and moderated effects of induced emotional expression (i.e., disclosure of thoughts and feelings related to financial stress; Pennebaker, 1997) on psychological outcomes across time, including depressive symptoms, intrusive thoughts, negative affect, and positive affect. In particular, I was interested in the influence of dispositional emotional tendencies, stressor-specific coping, and cultural factors on the adaptive utility of induced emotional expression. The second study examined the relationship of positive affect with dispositional emotional tendencies and stressor-specific coping in order to understand the sustenance of positive affect over time in the context of chronic stress. In order to provide a broad overview of the literatures informing my conceptualization of emotional expression and positive affect, this general introduction outlines core concepts related to stress and coping theory, emotion theory, and core affect.

Stress and Coping Theory

Stress arises when demands are perceived to exceed an individual's resources, and coping is defined as attempts to address these demands (Lazarus, 1966; Lazarus & Folkman, 1984). Classification systems for categorizing coping strategies have varied considerably over time (for a review see Skinner, Edge, Altman, & Sherwood, 2003). In accordance with the framework proposed by Lazarus and Folkman (1984), early conceptualizations most commonly classified coping strategies as being directed at either managing or altering the stress-inducing demands (i.e., problem-focused coping) or regulating emotional responses to the demand (i.e., emotion-focused coping). Recent research, however, has favored distinguishing whether a strategy is aimed at moving toward stressful demands and corresponding emotional responses

(approach-oriented) or away from these demands and emotional responses (avoidance-oriented; Roth & Cohen, 1986; Suls & Fletcher, 1985; Taylor & Stanton, 2007). Indeed, early studies examining outcomes associated with emotion-focused coping often confounded the assessment of emotion-focused coping with descriptors of distress and aggregated conceptually distinct forms of emotion-related coping strategies, including strategies aimed at approaching and avoiding emotional responses (Stanton, Danoff-Burg, Cameron, & Ellis, 1994). Distinguishing between approach- and avoidance-oriented coping is important for this dissertation as I was interested in examining the main and moderated effects of induced emotional expression, a form of approach-oriented coping.

Coping through Emotional Expression

Emotional expression (also commonly referred to as emotional disclosure, expressive disclosure, and experimental disclosure) is a well-studied approach-oriented coping strategy (Frattaroli, 2006; Pennebaker, 1997; Smyth, Pennebaker, & Arigo, 2012; Stanton, 2011). Induced emotional expression is a core component of many psychotherapeutic approaches (e.g., Barlow, Allen, & Choate, 2004; Greenberg, 2004; Whelton, 2004) and is associated with a variety of positive outcomes over time, including greater self-reported health and psychological wellbeing (e.g., satisfaction with life, happiness, optimism) as well as reduced distress and depressed mood (Frattaroli, 2006; Pennebaker, 1997; Smyth, 1998). Studies specifically examining the effect of induced emotional expression in young adult samples also demonstrate benefit, including lower utilization of healthcare services, fewer self-reported physical symptoms, and improvements in academic performance and grade point average (for a review see Smyth et al., 2012). Furthermore, individuals report positive attitudes towards induced emotional expression as well as greater attempts to process or make sense of stressors through disclosure with close others following participation in experimental paradigms that induce emotional expression (Frattaroli, 2006).

Despite substantial evidence supporting the utility of induced emotional expression, a relative paucity of research is devoted to identifying individual differences that moderate the effects of induced emotional expression. Previous research has focused primarily on methodological features or demographic variables as potential moderators of the effects of induced emotional expression (Frattaroli, 2006; Smyth, 1998). For example, although most studies examining induced emotional expression have more commonly employed written expression paradigms, evidence suggests no significant difference between the effects of written versus verbal emotional expression on psychological and health-related outcomes (Frattaroli, 2006; Pennebaker, 1997; Smyth et al., 2012). Research is needed to elucidate individual differences in psychosocial factors and stressor-related parameters that moderate the effect of induced emotional expression.

For the purpose of this dissertation, I was specifically interested in the intersection of induced emotional expression with dispositional emotional tendencies (i.e., rumination, reflection, emotional acceptance, emotional expressivity), stressor-specific coping (i.e., cognitive reappraisal, emotional suppression, emotional approach coping, avoidance coping, problem-focused coping, coping self-efficacy), and cultural factors (i.e., US acculturation, Latino enculturation). Preliminary evidence (Baker & Berenbaum, 2007, 2008) suggests that individuals low in emotional clarity, attentiveness, and communication derive the most benefit from coping interventions that induce emotional expression, whereas individuals high in emotional clarity, attentiveness, and communication benefit more from problem-solving interventions. These findings suggest that induced emotional expression may be particularly helpful for individuals who are not high in emotional attunement. However, these findings are somewhat contrary to previous research demonstrating that induced emotional expression conferred the most benefit for individuals with matching high levels of naturally-elected

emotional processing and expression (Austenfeld, Paolo, & Stanton, 2006; Stanton, Kirk, Cameron, & Danoff-Burg, 2000).

Given the mixed findings, much remains to be understood regarding the intersection of induced emotional expression with dispositional emotional tendencies and naturally-elected coping strategies. A primary aim of this dissertation was to determine which dispositional, stressor-specific, and cultural factors moderate the effects of induced emotional expression. I was particularly interested in determining whether induced emotional expression confers the greatest benefit for individuals who have a dispositional tendency towards emotional expression or have naturally-elected to cope with stress through emotional expression (matching hypothesis) or those who typically do not engage in dispositional or stressor-specific emotional expression (deficit hypothesis).Understanding the influence of these individual differences on outcomes of induced emotional expression has the potential inform our understanding of for whom and under what conditions induced emotional expression, such as often occurs in psychotherapeutic approaches, confers maximum benefit.

Emotion and Core Affect: Theoretical Perspectives

What is an emotion? The seemingly simple question posed by William James (1884) continues to fascinate researchers and generate considerable debate in psychological science (Barrett, 2006, 2012; Ekman, 1992; Panksepp, 2007). Whether emotions arise from basic innate neural circuitry (Panksepp, 2007) and can be distinguished by unique physiological signatures (Ekman, 1992; Ekman, Levenson, & Friesen, 1983) or are socially and cognitively constructed states that accompany biological changes (Barrett, 2006, 2012) are fundamental issues of continued exploration. Indeed, the term emotion has been described as “too broad a class of events to be a single scientific category” (Russell & Barrett, 1999, p. 805).

In response to the lack of clarity around operationalization and assessment of emotion, Russell (1980) proposed what has become the predominant conceptualization of core affect.

Core affect is defined as the experience of a simple, conscious neurophysiological feeling state that can be characterized by valence and arousal and is thought to be at the heart of every emotional experience (Russell, 2009). This conceptualization posits that core affect cuts through the complex issues of temporal precedence and casual attribution that plague many "emotion" constructs (e.g., longer-lasting mood states, discrete emotion episodes) and simply captures the conscious essence of a unified feeling state. Importantly, core affect can be differentiated from the experience of discrete emotions (e.g., anger, fear, happiness) in that core affect more broadly captures the conscious subjective experience of a feeling state, and discrete emotions are generally thought to be defined by both a specific subjective experience and a particular repertoire of facial and vocal expressions, autonomic changes, and/or behavioral responses which can usually be linked to an antecedent or object (Russell, 2009). Therefore, affect is considered a higher-order construct that subsumes discrete emotion states (Gross & Thompson, 2007; Tellegen, Watson, & Clark, 1999; Watson & Clark, 1997).

One consequence of distinguishing between affect and emotion has been a focus on disentangling generally positive versus negative emotional experiences (as opposed to comparing the profiles of discrete emotions; Watson & Clark, 1997). This distinction may be particularly useful for health psychologists interested in mind-body connections because research suggests that positive and negative affect are associated with distinct autonomic signatures (e.g., Cacioppo, Berntson, Larsen, Poehlmann, & Ito, 2000; Lang, Greenwald, Bradley, & Hamm, 1993), despite controversial and equivocal results around the distinct autonomic signatures of discrete emotions (for review see Barrett, 2006). Nevertheless, positively-valenced emotional experiences initially received markedly less attention than negatively-valenced emotional experiences from both emotion theorists and health psychology researchers and is an area of research that has burgeoned over the past 20 years (Fredrickson, 1998; Tugade, Shiota, & Kirby, 2016).

Positive Affect: Definition and Outcomes

For the purpose of this dissertation, I focused on positive affect as defined by the presence of positively-valenced or pleasant feelings, such as happiness, satisfaction, and contentment, which vary on level of arousal and can represent brief, longer lasting, or more stable trait-like experiences (Diener, Suh, Lucas, & Smith, 1999). Importantly, positive affect is not considered to be static, but rather a dynamic construct that generally increases over the lifespan (Mroczek & Kolarz, 1998) and demonstrates diurnal variation (Clark, Watson, & Leeka, 1989).

Any conceptualization of positive affect must address its association with negative affect. As outlined by Pressman and Cohen (2005), positive affect can be conceptualized as either independent of negative affect (existing on different spectrums of affect) or as the polar opposite of negative affect (existing on the same spectrum of affect). Emerging data suggest that positive affect and negative affect are largely independent and can coexist, such that positive affect is not defined by the mere absence of negative affect (Folkman & Moskowitz, 2000; Watson & Clark, 1997). Although positive and negative affect are typically negatively correlated in the short term (e.g., over one day), they become more independent over longer periods (e.g., weeks, months, and years; Diener & Emmons, 1984; Diener, Larsen, Levine, & Emmons, 1985; Watson, Clark, & Tellegen, 1988). Furthermore, the Dynamic Model of Affect posits that under conditions of stress, when cognitive resources are narrowed, positive and negative affect shift to become increasingly inversely related in comparison to low-stress periods when positive and negative affect are typically more weakly correlated (Reich, Zautra, & Davis, 2003; Zautra, Smith, Affleck, & Tennen, 2001). Individuals who evidence lower positive-to-negative affect correlations and are able to generate more positive affect in the midst of high levels of negative affect demonstrate higher trait resilience (i.e., a capacity to effectively modulate and respond to dynamic circumstances; Ong, Bergeman, Bisconti, & Wallace, 2006) and are less likely to

experience psychological distress in response to stressful life events (Coifman, Bonanno, & Rafaeli, 2007).

Importantly, substantial evidence supports the association of positive affect with improved downstream health outcomes. Positive affect prospectively predicts improved outcomes for a wide variety of diseases (Cohen, Alper, Doyle, Treanor, & Turner, 2006; Cohen & Pressman, 2006; Klonoff-Cohen, Chu, Natarajan, & Sieber, 2001; Middleton & Byrd, 1996; Ostir, Berges, Markides, & Ottenbacher, 2006; Ostir, Markides, Peek, & Goodwin, 2001), as well as lower rates of mortality (Chida & Steptoe, 2008). Furthermore, positive affect is associated with better overall self-reported health and lower self-reported physical symptoms (Pressman & Cohen, 2005), and the association of positive affect with better self-reported health is cross-cultural and spans many nationalities (Pressman, Gallagher, & Lopez, 2013). Despite its prospective relationship with positive health outcomes, few studies have identified mechanisms that account for the health-promoting effects of positive affect and much remains to be understood about the intermediate dynamics modulated by positive affect that exert influences on psychological and physical health. Given that the dynamics of positive affect shift in the context of stress, it is important to understand the emotion regulatory function of positive affect as well as its ability to buffer the deleterious effects of stress on psychological and physiological outcomes. A primary aim of this dissertation was to better characterize the function and correlates of positive affect in context of stress.

The Current Dissertation

The aim of this dissertation was to examine emotional expression and positive affect in a socioeconomically disadvantaged sample of Latina and non-Latina White female undergraduate students at UCLA experiencing chronic financial stress. In order to assess the influence of dispositional emotional tendencies, stressor-specific coping, and cultural factors on outcomes of induced emotional expression, the first study examines the main and moderated effects of

induced emotional expression on depressive symptoms, intrusive thoughts, negative affect, and positive affect. The second study examined a unifying model in order to elucidate possible pathways by which positive affect is sustained over time in the context of chronic stress through its relationship with dispositional emotional tendencies and stressor-specific coping. An improved understanding of how both induced emotional expression and positive affect function to help individuals regulate psychological wellbeing in the context of stress has the potential to inform future intervention efforts for individuals coping with chronic stress.

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Study 1

Dispositional Emotional Tendencies and Stressor-specific Coping Moderate the Effects of Induced Emotional Expression in Latina and non-Latina White Women Coping with Chronic Financial Stress

Abstract

The current experiment tested the influence of dispositional emotional tendencies, stressor-specific coping, and cultural factors on the effect of experimentally induced written emotional expression (versus a factual disclosure control) on adjustment in young Latina and non-Latina white women experiencing chronic financial stress. Method: Women (N = 136) were randomly assigned to discuss the emotions regarding their financial stress (induced emotional expression) or the facts regarding their finances (control) during two laboratory sessions two to five days apart. Depressive symptoms, stressor-specific intrusive thoughts, negative affect, and positive affect were assessed at baseline and one- and ten-week follow-ups. Results: Multilevel modeling analyses demonstrated that approach-oriented processes (i.e., dispositional emotional acceptance, stressor-specific cognitive reappraisal) predicted better psychological adjustment over time while avoidance-oriented processes (i.e., dispositional rumination, stressor-specific avoidance coping, stressor-specific emotional suppression) predicted greater distress over time. Stressor-specific coping self-efficacy was the only factor that predicted better psychological adjustment across all four outcomes (i.e., greater positive affect and lower depressive symptoms, intrusive thoughts, negative affect). No main effect of experimental condition was observed; the effect of condition was moderated by dispositional and stressor-specific factors, however. Induced emotional expression predicted lower intrusive thoughts across time than the control condition at high levels of dispositional rumination, but not mean or low levels of dispositional rumination. Similarly, induced emotional expression predicted lower negative affect across time than the control condition at high levels of stressor-specific avoidance coping, but predicted greater negative affect than the control condition at low levels of stressor-specific avoidance. A distinct pattern emerged for positive affect. Induced emotional expression predicted greater positive affect across time than the control condition at low, mean, and high levels of stressor-specific coping self-efficacy, dispositional emotional acceptance, and positive

expressivity; however, the magnitude of this effect was greater at higher levels of these factors. Ethnicity did not moderate the main effects of condition dispositional emotional tendencies, or stressor-specific coping. Conclusions: Findings suggest that induced emotional expression both counteracts engagement in dispositional and stressor-specific avoidance-oriented processes to reduce distress and capitalizes on stressor-specific coping self-efficacy and dispositional approach-oriented processes to increase positive affect.

Keywords: emotional expression, coping, dispositional, Latina, financial stress

The benefits of emotional expression are supported by an extensive literature using experimental paradigms to induce disclosure of thoughts and feelings related to a stressor (i.e., induced emotional expression; Frattaroli, 2006; Pennebaker, 1997; Smyth, Pennebaker, & Arigo, 2012; Stanton, 2011). The aim of the current experiment was to understand how dispositional, stressor-specific, and cultural factors influence the utility of induced emotional expression. The main and moderated effects of induced emotional expression on psychological outcomes across time, including depressive symptoms, intrusive thoughts, negative affect, and positive affect, were examined in a sample of Latina and non-Latina white female undergraduate students experiencing chronic financial stress. In particular, the influence of dispositional emotional tendencies (i.e., rumination, reflection, emotional acceptance, emotional expressivity), stressor-specific coping (i.e., cognitive reappraisal, emotional suppression, emotional approach coping, avoidance coping, problem-focused coping, coping self-efficacy), and cultural factors (i.e., US acculturation, Latino enculturation) on outcomes of induced emotional expression was examined.

Emotional expression (also commonly referred to as emotional disclosure, expressive disclosure, and experimental disclosure) is a well-studied approach-oriented coping strategy (Frattaroli, 2006; Pennebaker, 1997; Smyth et al., 2012; Stanton, 2011). Induced emotional expression is a core component of many psychotherapeutic approaches (e.g., Barlow, Allen, & Choate, 2004; Greenberg, 2004; Whelton, 2004) and is associated with a variety of positive outcomes over time. Meta-analyses demonstrate that induced emotional expression increases positive psychological wellbeing (e.g., satisfaction with life, happiness, optimism) and reduces distress and depressed mood (Frattaroli, 2006; Smyth, 1998). Furthermore, studies specifically examining the effect of induced emotional expression in undergraduate students also demonstrate benefit, including better psychological adjustment, academic performance, and grade point average (for review see Smyth et al., 2012). An improved understanding of the

conditions under which emotional expression confers maximum benefit for individuals coping with chronic stress has the potential to inform future interventions for chronically stressed groups.

Approach-oriented coping strategies, which are aimed at moving toward stressful demands and corresponding emotional responses, are typically associated with better psychological adjustment than avoidance-oriented strategies aimed at moving away from these demands and emotional responses (Roth & Cohen, 1986; Suls & Fletcher, 1985; Taylor & Stanton, 2007). Individuals with greater dispositional approach tendencies also generally evidence more positive psychological wellbeing and lower symptoms of depression and anxiety than individuals with greater dispositional avoidance tendencies (Carver & White, 1994; Johnson, Turner, & Iwata, 2003; Jorm et al., 1998). Nevertheless, evidence suggests that dispositional and stressor-specific processes are related but not redundant constructs (Bouchard, Guillemette, & Landry-Léger, 2004; Carver & Scheier, 1994; Carver, Scheier, & Weintraub, 1989). In order to observe the influence of both dispositional and stressor-specific processes on the effects of induced emotional expression, the current study examined a selection of approach-oriented constructs, including dispositional emotional acceptance, dispositional reflection, and dispositional emotional expressivity, as well as stressor-specific cognitive reappraisal, emotional approach coping, and problem-focused coping. Dispositional rumination and stressor-specific emotional suppression and avoidance were examined as avoidance-oriented processes.

Despite the well-documented associations of dispositional emotional tendencies and stressor-specific coping strategies with psychological adjustment (e.g., Burgin et al., 2012; Campbell-Sills, Barlow, Brown, & Hofmann, 2006; Jones, Papadakis, Hogan, & Strauman, 2009; Moore, Zoellner, & Mollenholt, 2008; Nolen-Hoeksema, 2000; Penley, Tomaka, & Wiebe, 2002), the intersection of these factors and induced emotional expression is understudied. It is

plausible that the benefits of induced emotional expression may vary as function of dispositional emotional tendencies and stressor-specific coping. For example, the experience and process of induced emotional expression may differ depending on an individual's propensity toward rumination, reflection, emotional acceptance, and emotional expressivity. Similarly, outcomes of induced emotional expression may differ depending on match or mismatch with the self-elected strategies an individual enacts to cope with a stressor. Coping self-efficacy, or an individual's confidence in his or her capacity to cope with a stressor, is also an important determinant of psychological adjustment in the context of chronic stress (Chesney, Chambers, Taylor, Johnson, & Folkman, 2003; Chesney, Neilands, Chambers, Taylor, & Folkman, 2006; Keefe et al., 2004; Stanton, Luecken, MacKinnon, & Thompson, 2013) and may influence outcomes of induced emotional expression. It is plausible that the consequences of disclosing thoughts and feelings related to a stressor (i.e., induced emotional expression) may vary as a function of an individual's perceived ability to cope with that stressor. Therefore, the interaction of coping self-efficacy and induced emotional expression was also examined in the current study.

Preliminary evidence from studies examining the moderating effects of dispositional and stressor-specific factors on outcomes associated with induced emotional expression is mixed. Two studies (Baker & Berenbaum, 2007, 2008) comparing the effectiveness of emotional approach (including emotional processing and expression) and problem-focused coping interventions suggest that dispositional factors play an important role in determining outcomes. In a study of the transition to college, first-year undergraduates who were less attentive to and communicative of their emotions evidenced a greater decrease in negative affect in an intervention aimed at inducing emotional processing and expression versus a problem-solving intervention (Baker & Berenbaum, 2008). In contrast, individuals who were more emotionally attentive and communicative had a greater decrease in negative affect in the problem-solving intervention. Similarly, young adults coping with academic and interpersonal stressors in an

emotional approach intervention demonstrated increased positive affect two weeks later if they reported low levels of clarity and communication regarding their emotional experience at baseline (Baker & Berenbaum, 2007). In contrast, individuals with high emotional clarity and communication increased in positive affect in the problem-focused intervention. Together, these results suggest that interventions aimed at inducing emotional expression may be well-suited for individuals who do not have a dispositional propensity to express their emotional experience. For these individuals, induced emotional expression may counteract these deficits and produce greater benefits, whereas problem-solving confers benefit for individuals already high in emotional clarity, attention, and communication. In contrast, other research demonstrates that induced emotional expression confers the most benefit for individuals with matching high levels of naturally-elected emotional expression and processing (Austenfeld, Paolo, & Stanton, 2006; Stanton, Kirk, Cameron, & Danoff-Burg, 2000). A primary aim of the current study is to elucidate moderators of induced emotional expression in order to identify for whom and under what conditions this process is most beneficial. More specifically, analyses were conducted in order to determine whether induced emotional expression confers the greatest benefit for individuals who have a dispositional tendency towards emotional expression or have naturally elected to cope with stress through emotional expression (matching hypothesis) or for those who typically do not engage in dispositional or stressor-specific emotional expression (deficit hypothesis).

The current sample of socioeconomically disadvantaged, chronically-stressed Latina and non-Latina white undergraduate women provided a unique opportunity to study how these processes unfold in two ethnic groups. Evidence suggests that culture can modulate the expression of emotion (Ekman, 1972; Gross & John, 1995). Although ethnographic studies have depicted some Latino cultures as expressing emotions strongly (Garza, 1978; Ramirez & Castaneda, 1974), empirical investigations have not yielded evidence of higher levels of emotional expressivity in Latino undergraduate students compared with non-Latino white

students (Gross & John, 1995; Matsumoto, 1993). Of course, solely examining ethnicity might not adequately capture cultural influences. Both acculturation and enculturation were assessed in the present study. This approach allows for the assessment of adaptation to the majority culture (i.e., acculturation; Berry, 1997) while also capturing the preservation of ties to the minority culture of origin for Latinas (i.e., enculturation; Contreras, Kerns, & Neal-Barnett, 2002) in order to capture the intersection of these multidimensional cultural influences. To our knowledge, this is the first study to examine the interaction of induced emotional expression with both acculturation and enculturation on psychological adjustment.

Much remains to be understood regarding the intersection of induced emotional expression with dispositional emotional tendencies and stressor-specific coping processes. The primary aim of this study was to determine how these factors influence the effect of induced emotional expression. Latino college students generally report greater psychological distress and higher academic and financial stress than non-Latino white students (Pilar, 2009; Quintana, Vogel, & Ybarra, 1991). Latino college students also report distress related to prejudice and dissatisfaction with academic environments (Hwang & Goto, 2009; Kim, Rennick, & Franco, 2014) and demonstrate worse academic performance, including higher dropout rates and lower grade point averages, than non-Latino white peers (Kim et al., 2014; Fry, 2004). Furthermore, among Latino college students, women report greater levels of stress than men (Quintana et al., 1991). Given the unique vulnerabilities faced by Latina students, it was hypothesized that Latinas would evidence higher depressive symptoms, stressor-specific intrusive thoughts, and negative affect as well as lower positive affect than non-Latina white women.

Consistent with research supporting the benefits of induced emotional expression on psychological adjustment (Frattaroli, 2006; Pennebaker, 1997; Smyth, 1998), it was hypothesized that women in the induced emotional expression condition would evidence lower depressive symptoms, stressor-specific intrusive thoughts, and negative affect as well as

greater positive affect across time than women in the control condition. Given mixed previous findings, directional hypotheses for analyses examining the moderating effects of dispositional emotional tendencies, stressor-specific coping processes, ethnicity and cultural factors on outcomes of induced emotional expression were not proposed. A primary aim was to determine whether induced emotional expression confers greater benefit for individuals who endorse higher approach-oriented dispositional tendencies and stressor-specific processes (matching hypothesis) or those who endorse higher avoidance-oriented dispositional tendencies and stressor-specific processes (deficit hypothesis).

Overview of Design

Participants were undergraduate women at the University of California, Los Angeles (UCLA) who reported experiencing chronic financial stress. Chronic financial stress was chosen because it is a commonly-experienced, naturally-occurring stressor that is understudied in young adults and is associated with both adverse academic and psychological outcomes in college students, including higher rates of drop out and lower course loads (Joo, Durband, & Grable, 2008) as well as greater symptoms of depression and anxiety (Eisenberg, Gollust, Golberstein, & Hefner, 2007). Eligibility was restricted to women due to evidence of gender differences in both the experience of financial stress in undergraduate students (Brougham, Zail, Mendoza, & Miller, 2009) and in the adaptive utility of emotional processing and expression (Stanton, 2011). Furthermore, in order to examine possible ethnic differences, eligibility was restricted to Latina and non-Latina white women.

Participants were randomly assigned either to describe their emotions regarding their financial stress (induced emotional expression condition) or state only factual information regarding their financial status (control condition) during two laboratory sessions 48 hours to one week apart (modeled after Stanton et al., 2000, Study 4). Consistent with evidence from the Center for Collegiate Mental Health (2016) that overall levels of distress, particularly symptoms

of depression and anxiety, are steadily increasing in college students, outcomes assessed at baseline and one- and ten-week follow-ups include depressive symptoms, negative affect, and stressor-specific intrusive thoughts (a marker of anxiety; Zilberg, Weiss, & Horowitz, 1982). Given its association with greater motivation and academic performance (Mega, Ronconi, & De Beni, 2014), positive affect was also assessed in order to capture positive psychological wellbeing.

Method

Participants

Undergraduate students were screened using the "UCLA Psychology Department Subject Pool" online system as part of the enrollment requirement for the introductory psychology course or in order to receive extra credit for an upper-division psychology course. Latina and non-Latina white women who reported experiencing chronic financial stress in an initial screening were recruited to participate. Students were prescreened using a revised version of the Economic Strain Questionnaire (Pearlin, Menaghan, Lieberman, & Mullan, 1981) and were required to report an overall average of "*somewhat*" to "*very high*" financial stress for at least six months in order to be eligible (i.e., average rating of at least 3 on 9-item, 5-point scale assessing financial stress). Individuals were not eligible if they were 1. male, 2. a self-identified ethnicity or race other than Latino or non-Latino white, 3. not experiencing chronic financial stress, and/or 4. younger than 18 years of age. Of 4,403 students who completed the screening questionnaire, 398 eligible women were recruited and 136 were enrolled in the study.[1] Of the women enrolled, 3 (2.2%) women did not complete the one-week follow-up assessment (*N* = 133 completers) and 76 (55.9%) did not complete the optional ten-week follow-up assessment (*N* = 60 completers).

[1] Eligibility criteria across all available studies in the "UCLA Psychology Department Subject Pool" determined which studies were listed for each student. Students were able to sign up for studies directly, and most signed up for the current study directly or after receiving a recruitment email/call from a research assistant. Those who did not participate were usually not reached rather than actively declining.

Procedure

In an experimental paradigm previously used in our laboratory (Stanton et al., 2000, Study 4), participants were randomly assigned either to describe the emotions regarding their financial stress (induced emotional expression condition; *n* = 66, 48.5%) or state only factual information regarding their financial status (control condition; *n* = 70, 51.5%) during two laboratory sessions 48 hours to one week apart. Participants' disclosure condition assignment was constant across sessions. This active control condition accounts for exposure to the stressor and allows us to observe the effects of induced emotional expression over and above stressor exposure, a hypothesized mechanism of induced emotional expression (Sloan & Marx, 2004; Sloan, Marx, & Epstein, 2005).

The first session lasted approximately one hour: 35 to 40 minutes for the written informed consenting process and baseline questionnaire completion followed by 20 to 25 minutes for the experimental paradigm, which includes six-minute baseline, disclosure, and recovery periods (Figure 1). During the baseline period, participants were asked to sit still and quietly for six minutes. Instructions for the disclosure task were subsequently read to the participant. Instructions for the induced emotional expression condition were:

> "In our screening questionnaire, you indicated that you have been experiencing a significant amount of financial stress for six months or more. I'd like to ask you about that experience. We are specifically interested in the feelings and emotions you have been experiencing regarding your financial difficulty. Please be as specific as possible in talking about the emotions you have experienced throughout this financially stressful time. You might talk about how you felt when the financial stress began, how you felt when you experienced pronounced difficulty making ends meet, or feelings about trying to cope with the financial stress. Again, I'd like you to really focus on your feelings."

Instructions for the control condition were identical through the first two sentences followed with:

"We are specifically interested in the facts regarding your financial difficulty. You might talk about when the financial stress began, what your budget is, how much money you owe in loans, any jobs you work to help support yourself, etc. Again, I'd like you to really focus on the facts regarding your financial difficulty."

During the six-minute disclosure task, interviewers used condition-consistent prompts as necessary in order to maintain the integrity of condition assignment; however, interviewer participation was minimal. The disclosure task was followed by the recovery period in which participants were instructed to sit still and quietly for six minutes.

The second session took place two to seven days after the first session and lasted approximately 1.5 hours: 30 to 45 minutes for set-up and the experimental disclosure task followed by 45 to 60 minutes for Life Stress Interview administration (for a separate sub-study not described herein). Participants completed the experimental paradigm exactly as in the first session. Condition assignment was constant across sessions and participant disclosure during the experimental paradigm was audio-recorded in order to ensure fidelity to the experimental manipulation (i.e., talking about facts in the control condition and emotions in the induced emotional expression condition). Condition assignment was distinguished with 98% accuracy by two independent raters who were unaware of condition assignment in a randomly selected sample 33% (n = 45) of recordings.

One week after the second laboratory session, participants received a link to an online questionnaire in order to complete outcome measures (i.e., depressive symptoms, stressor-related intrusive thoughts, positive/negative affect). On average, participants responded to this questionnaire approximately nine days after completing their second laboratory session (M = 8.76, SD = 2.43). Participants also were invited to complete an optional online questionnaire 8 weeks after their second laboratory session in order to assess the same dependent variables. On average, participants responded to this questionnaire approximately ten weeks after their

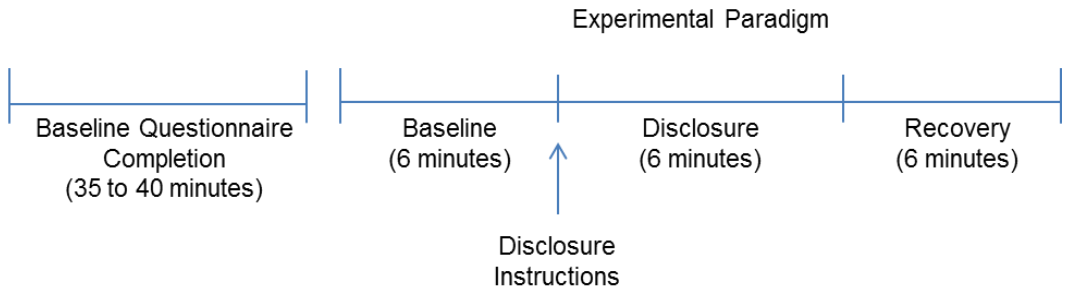
second laboratory session (M = 10.00, SD = 1.93). Response time for questionnaire completion (i.e., number of days between session 2 and one week follow-up and number of weeks between session 2 and ten week follow-up) did not differ significantly by condition ($p > .4$). Response time did not correlate with outcomes at follow-up assessments, with the exception of a positive association between response time and negative affect at one week (r = .18, p = .04). The effect of response time between session 2 and one week was controlled for in all analyses examining negative affect.

As per departmental protocol, students participating to fulfill a course requirement for the introductory psychology course received a one-hour credit for each hour of participation. Students participating in order to receive extra credit for an upper-division psychology course also received credit for each hour of participation, with amount of credit at the discretion of their professor). Students received three credits for participation corresponding with the duration of their participation of approximately three hours. Credits were assigned by an experimenter through the UCLA Psychology Department Subject Pool online system. For participation in the optional ten-week follow-up questionnaire, participants were entered in a raffle for a $20 Target gift card. One $20 Target gift card was awarded each quarter; the recipient was selected randomly using a random number generator.

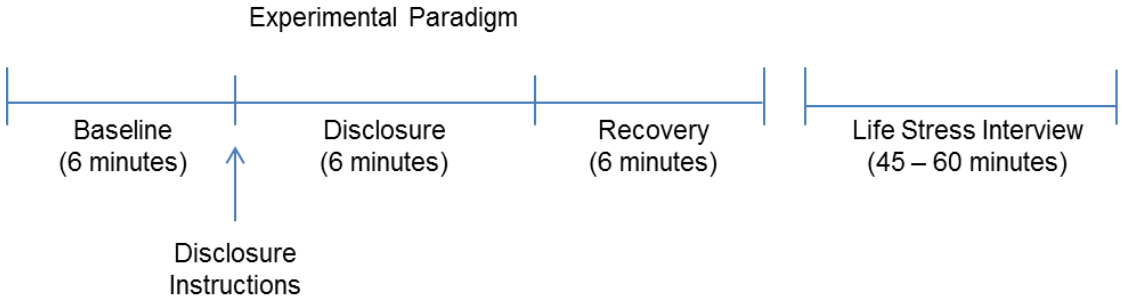
The University of California, Los Angeles (UCLA) Institutional Review Board approved study procedures, and written informed consent was obtained from all participants. Sessions were conducted individually by highly trained bachelor's-level research assistants and doctoral-level graduate students. Data were collected from January 2012 to August 2015.

Figure 1. Experimental paradigm and questionnaire administration in Sessions 1 and 2

Session 1



Session 2



Measures

Demographic variables. Demographic variables assessed as part of the screening questionnaire were age, ethnicity, year at UCLA, relationship status, years residing in US, participant's country of birth, and country of birth for both parents. Participants also self-reported height and weight, which were used to calculate Body Mass Index. Financial information assessed at baseline was combined household income as well as receipt and amount of loans, scholarships/grants, support from parents or other adults, and employment income. Participants also provided descriptive information on perceived difficulty paying bills and making ends meet at the end of the month on 5- and 3-point Likert-type scales (items from the modified Pearlin Financial Strain Scale; Pearlin et al., 1981).

Chronic financial stress. A 9-item modified version of the Pearlin Financial Strain Scale (Pearlin et al., 1981) was used to screen for perceived finance-specific stress lasting the

past six months or longer. Participants rated their stress associated with difficulty covering specific expenses (e.g., “How stressful it is for you to afford housing, such as an apartment or dorm, that is suitable?” “How stressful is it for you to afford your UCLA tuitions and fees?”) on a 5-point Likert-type scale. Potential participants were required to have an average between 3.0 and 5.0 on this measure (indicative of "moderately" to "very high" financial stress) in order to be eligible. The measure demonstrated adequate internal consistency in this sample (α = .71).

Dispositional emotional tendencies. Three questionnaires assessing dispositional emotional tendencies were administered at baseline.

The Berkeley Expressivity Questionnaire (BEQ; Gross & John, 1997), a 16-item measure, was used to assess dispositional tendencies to experience and express positive and negative emotions. Participants rated the extent to which they agreed with statements on three dimensions: negative expressivity (e.g., “Whenever I feel negative emotions, people can easily see exactly what I am feeling”), positive expressivity (e.g., “When I feel happy, my feelings show”), and affect intensity (e.g., “I experience my emotions very strongly”) on 7-point Likert-type scale. This scale yields three subscale average scores for positive expressivity, negative expressivity, and affect intensity. This measure demonstrated adequate internal consistency in this sample (negative affectivity α = .71, positive expressivity α = .73, affect intensity α = .80).

A short-form 12-item version of the Rumination and Reflection Questionnaire (RRQ; Trapnell & Campbell, 1999) was used to assess dispositional tendencies to ruminate and reflect (6 items). Participants rated the extent which they agreed with statements describing tendencies to ruminate (e.g., “I tend to ‘ruminate’ or dwell on things that happen to me for a really long time afterward,” “Sometimes it is hard for me to shut off thoughts about myself”) and reflect (e.g., “I love to meditate on the nature and meaning of things,” “I often love to look at my life in philosophical ways") on a 5-point Likert scale. This scale yields two average scores: rumination

and reflection. This measure demonstrated adequate internal consistency in this sample (rumination α = .78, reflection α = .88).

The Emotional Acceptance subscale of Control of Feelings Questionnaire (Benjamin, 1995), a 13-item measure, was used to assess the extent to which participants typically accept their emotional experience. Participants rated the extent to which they agree with statements describing acceptance of emotions (e.g., “I gently and warmly appreciate my feelings just as they are,” “I naturally and easily attend to my feelings”) on a 10-point scale. This scale yields an overall average score. This measure demonstrated adequate internal consistency in this sample (α = .95).

Acculturation. Acculturation was measured at baseline with the Abbreviated Multi-Dimensional Acculturation Scale (AMAS-ZABB; Zea, Asner-Self, Birman, & Buki, 2003). The AMAS-ZABB is a multidimensional measure that assesses identity, cultural knowledge, and language proficiency in a composite sum score. Both Latina and non-Latina white women completed the US acculturation measure at baseline and rated items related to their US-American identity (e.g., “I have strong sense of being US- American”), US-American cultural knowledge (e.g., “How well do you know American national heroes?”), and English language proficiency (e.g., “How well do you speak English at school or work?”) on a 4-point Likert-type scale with higher sum scores representing a higher level of US acculturation. This measure demonstrated high internal consistency in this sample (α = .93).

Additionally, Latina women completed the AMAS-ZABB measure at baseline regarding enculturation to their Latino culture. Participants rated items related to their cultural identity (e.g., “I am proud of being Mexican”), cultural knowledge (e.g., “How well do you know the history of your native culture?”), and Spanish language proficiency (e.g., “How well do you speak Spanish with family?”) on a 4-point Likert-type scale with higher sum scores representing a higher level

of Latino enculturation. This measure demonstrated high internal consistency in this sample (α = .94).

Stressor-specific coping. Four questionnaires were administered at baseline of Session 1 to assess stressor-specific coping.

The COPE Inventory (Carver et al., 1989) was used to assess participants' use of the strategies specifically to cope with their financial stress. A selected 16 items were administered to assess composite average scores of problem-focusing coping and avoidance coping. Participants rated their use of these strategies to cope with their financial stress on a 4-point Likert-type scale. Problem-focused coping is comprised of two subscales, each with two items to assess planning (e.g., "I try to come up with a strategy about what to do") and active coping (e.g., "I take action to try to make the situation better"). Avoidance coping is comprised of three subscales, each consisting of four items to assess denial (e.g., "I pretend that it hasn't really happened"), mental disengagement (e.g., "I turn to work or other substitute activities to take my mind off things"), and behavioral disengagement (e.g., "I admit to myself that I can't deal with it, and quit trying"). Both subscales demonstrated adequate internal consistent in this sample (problem-focused coping α = .81 and avoidance coping α = .80).

The Emotional Approach Coping scale (Stanton et al., 2000), comprised of the emotional processing and emotional expression subscales, was used to assess participants' use of emotional approach to cope with financial stress. Each subscale consists of four items to assess emotional processing (e.g., "I take time to figure out what I'm really feeling") and expression (e.g., "I feel free to express my emotions"); the eight items were averaged for this composite. This measure demonstrated high internal consistency in this sample (α = .91).

The Emotion Regulation Questionnaire (ERQ; Gross & John, 2003), a 10-item measure, was adapted to be situation-specific in order to assess participants' use of cognitive reappraisal and emotional suppression to cope with financial stress. Participants rated their use of

strategies to regulate and manage their emotions (e.g., “I control my emotions regarding my financial stress by changing the way I think about the situation I’m in,” “I keep my emotions regarding my financial stress to myself”) on a 7- point Likert scale. This scale yields two subscale averages: cognitive reappraisal and emotional suppression. This measure demonstrated adequate internal consistency in this sample (cognitive reappraisal α = .87 and emotional suppression α = .72).

The Coping Self-Efficacy Scale (Chesney et al., 2006), a 26-item measure, assessed women’s confidence in their ability to cope with their financial stress. Participants rated their ability to cope (e.g., “Find solutions to your most difficult problems,” “Leave options open when things get stressful”) on a 10-point Likert-type scale. This scale yields a total score from three subscales: confidence in using problem-focused coping, confidence in stopping unpleasant thoughts/emotions, and confidence in obtaining support. This measure demonstrated high internal consistency in this sample (α = .96).

Outcomes. Three measures were used to assess four outcomes of interest: depressive symptoms, stressor-specific intrusive thoughts, and positive and negative affect.

Two measures of distress were administered at baseline as well as the one- and ten-week follow-up assessments. The Center for Epidemiologic Studies Depression Scale (CESD; Radloff, 1977), a 20-item measure, is used to assess depressive symptomatology during the past week. Participants rated their experience of symptoms (e.g., “I felt I could not shake off the blues, even with help from family or friends” “I was bothered by things that usually don’t bother me”) on a 4-point scale. This scale yields a total score. This measure demonstrated high internal consistency in this sample across time (baseline α = .86, one-week α = .91, ten-week α = .92).

The Impact of Event Scale (IES; (Mardi Horowitz, Wilner, & Alvarez, 1979) – Intrusion subscale, a 7-item measure, was used to assess finance-related intrusive thoughts. Participants

rated their experience of symptoms (e.g., “Any reminder brought back feelings about my finances,” “I had trouble staying asleep because thoughts about my finances came into my mind”) on a 4-point Likert-type scale. Yielding a total score, this measure demonstrated high internal consistency in this sample across time (baseline α = .84, one-week α = .87, ten-week α = .88).

The 20-item Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988) was used to assess positive and negative affect. The instructions did not refer to participants’ financial stress, but rather assessed affect during the past week at baseline[2] as well as the one- and ten-week follow-up assessments. Participants rated the extent to which they experienced different affect descriptors (e.g., “strong,” “inspired,” “proud” for positive affect and “nervous” “irritable,” “upset” for negative affect) during the past week on a 5-point Likert-type scale. This measure demonstrated high internal consistency in this sample across time for both positive affect (baseline α = .90, one week α = .90, ten week α = .90) and negative affect (baseline α = .86, one-week α = .84, ten-week α = .85).

Statistical Analyses

Analyses were conducted with SPSS version 18.0. All questionnaire data were scored such that an item completion rate at or above 75% was required for the computation of scale or subscale scores. In order to examine the relationship of condition and proposed moderators with outcomes across time, two-level multilevel models with assessment points nested within individuals were conducted to test the main effects of condition and proposed moderators as well as their interaction on the four outcome at baseline, one- and ten-week follow-up assessments. Multilevel models are well suited for longitudinal data as they account for the non-independence of repeated observations and missing data on repeated-measure outcomes.

[2] The PANAS administered at baseline was added after study initiation, accounting for the lower subsample of participants who completed it at this time point (*n* = 119 of 136).

Preliminary analyses were conducted to evaluate the main effect of time as well as the quadratic effect of time on each repeated-measure outcome in order to assess whether these effects should be included in subsequent models. Two variables, stressor-specific problem-focused and emotional approach coping, did not randomize across conditions (i.e., participants in the induced emotional expression condition self-reported higher levels of problem-focused and emotional approach coping at baseline than participants in the control condition). Therefore, the main effect of each variable and its interaction with both time and condition on each repeated-measure outcome was examined in order to determine which covariates should be included in all subsequent models. This was done so that any other observed effect could be interpreted as over and above the effect of those variables.

Analyses evaluated the main effect of condition as well as the interaction of condition with time. Moderation analyses used separate multilevel models to evaluate the main effect of each proposed moderator as well as its interaction with condition. For Latina women only, the main effect of Latino enculturation and its interaction with condition was also evaluated. The main effect of ethnicity and its interaction with each proposed moderators were also assessed. All intercept variance components were significant and final models included a random intercept for time at Level 1 in order to capture the variability between participants in starting points (in the present study, individual differences in baseline depressive symptoms, intrusive thoughts, and negative and positive affect). The four psychological adjustment measures were treated as Level 1 outcomes, with the main effects of condition and baseline proposed moderators and their interaction as Level 2 predictors.

Results

Demographic Characteristics

Table 1 displays sample characteristics. Participants were on average 19 years old and were in their first (50.7%) or second (32.4%) year at UCLA. Participants self-identified as being

Latina (*N* = 91, 66.9%) or non-Latina white (*N* = 45, 33.1%). On average, participants had a Body Mass Index of 22.5 and were within the normal weight classification band (63.5%). Most women reported a combined household income of $60,000 or less (61.8%), at least some difficulty paying bills (69.9%), and just enough money to make ends meet at the end of the month (57.4%). Most women received loans (61.0%), scholarships/grants (83.1%), and support from parents or other adults (66.2%). Slightly less than half of women were employed (45.6%). On the screening questionnaire (1 = *not stressful at all*, 2 = *a little stressful*, 3 = *somewhat stressful*, 4 = *moderately stressful*, and 5= *very stressful*), women reported overall financial stress above the screening cut off of 3.0 (*M* = 3.77, *SD* = .58) and endorsed the highest level of financial stress around covering textbook expenses (*M* = 4.35, *SD* = .76), followed by expenses associated with (in descending order) tuition (*M* = 4.25, *SD* = .93), housing (*M* = 4.08, *SD* = .95), car/transportation (*M* = 3.90, *SD* =1.14), leisure activities (*M* = 3.85, *SD* = 1.01), food (*M* = 3.50, *SD* = 1.13), healthcare (*M* = 3.48, *SD* = 1.26), furniture/household items (*M* = 3.42, *SD* = 1.15), and clothing (*M* = 3.10, *SD* = 1.13).

Descriptive Statistics

Means and standard deviations on repeated-measure outcomes are displayed in Table 2. On average, women reported depressive symptoms above the clinically suggestive cutoff of 16 at baseline and one week, (*M* = 17.78, *SD* = 8.55, *M* = 17.61, *SD* = 10.28, respectively) but not at ten weeks (*M* = 15.10, *SD* = 10.06; Radloff, 1977). Stressor-specific intrusive thoughts were lower than levels typically observed following trauma exposure (Sundin & Horowitz, 2003) across baseline, one and ten weeks (*M* = 8.79, *SD* = 5.07, *M* = 7.45, *SD* = 4.99, *M* = 7.90, *SD* = 5.58, respectively). Women reported levels of negative affect comparable to undergraduate norms at baseline (*M* = 19.42, *SD* = 6.78), but lower than norms at one and ten weeks (*M* = 16.14, *SD* = 5.45, *M* = 16.81, *SD* = 5.67, respectively; Watson & Clark, 1999). Women also reported lower positive affect than undergraduate norms across baseline, one and ten weeks (*M*

= 28.35, *SD* = 7.48, *M* = 24.59, *SD* = 7.96, *M* = 26.80, *SD* = 7.91, respectively; Watson & Clark, 1999). Each outcome was significantly positively correlated across time (depressive symptoms: *r's* = .45 - .64, *p's* < .001; intrusive thoughts, *r's* = .54 - .60, *p's* < .001; negative affect: *r's* = .41 - .57, *p's* < .01), with the exception of positive affect. Positive affect at baseline and the one-week follow-up were highly positively correlated (*r* = .53, *p* < .001), as were positive affect at the one and ten week follow-ups (*r* = .57, *p* < .001). However, baseline positive affect was marginally positively correlated with positive affect at ten weeks (*r* = .23, *p* = .075), indicating greater independence across the two time points. The bivariate correlations between outcomes at baseline, one- and ten- weeks are shown in Tables 3 and 4.

The relationships between baseline values of outcomes and financial variables were examined. Women who received help from parents had higher baseline positive affect than women who did not (*t*(117) = 2.56, *p* = .012; *M* = 29.52 , *SD* = 7.51 for women receiving support versus *M* = 25.85, *SD* = 6.86 for women not receiving support). Post hoc analyses revealed that this effect was only observed in Latinas (Latinas: *t*(84) = 2.24, *p* = .028; *M* = 27.69, *SD* = 7.37 for women receiving support versus *M* = 24.04, *SD* = 6.32 for women not receiving support; non-Latina white women: *t*(34) = 1.07, *p* = .291). Women who lived at home with parents or other family members had higher baseline positive affect than women who did not (*t*(116) = 2.26, *p* = .026; *M* = 30.48, *SD* = 7.79 for women living at home versus *M* = 27.22, *SD* = 7.06 for women not living at home). This effect did not differ by ethnicity. Combined household income was significantly positively correlated with baseline positive affect (*r* = .312, *p* = .001). The financial stress screener score was significantly positively correlated with stressor-specific intrusive thoughts (*r* = .29, *p* = .001), even though the distribution of screener scores was truncated due to the eligibility criterion cutoff. No other associations were observed between financial variables and baseline depressive symptoms, intrusive thoughts, and negative affect.

Means and standard deviations on dispositional and stressor-specific variables are displayed in Table 5. The bivariate correlations among dispositional and stressor-specific variables are shown in Tables 6 and 7, respectively. Overall, approach-oriented dispositional tendencies were correlated (i.e., reflection, emotional acceptance, positive expressivity) and rumination was not associated with approach-oriented factors, with the exception of being negatively correlated with emotional acceptance (r = -.35, p < .001). Affect intensity and negative expressivity were positively correlated with one another and positive expressivity (*r*'s = .38 - .42, *p*'s < .001) but were not correlated with any other factor. US acculturation and Latino enculturation were not significantly correlated. US acculturation was positively correlated with positive expressivity (*r* = .33, *p* < .001) and emotional acceptance (*r* = .21, *p* < .05), while Latino enculturation was positively correlated with cognitive reappraisal (*r* = .21, *p* < .05). Similarly, approach-oriented coping strategies (i.e., emotional approach, problem-focused coping, cognitive reappraisal) were correlated (*r's* = .17 - .42, p's < .05) and coping self-efficacy was positively correlated with all three approach-oriented strategies (*r*'s = .43 - .60, *p*'s < .001) and negatively correlated with emotional suppression (*r* = -.19, *p* < .05). The two avoidance-oriented strategies (i.e., emotional suppression, avoidance coping) were positively correlated (*r* = .24, *p* < .01). Avoidance coping was positively correlated with cognitive reappraisal (*r* = .18, *p* < .05). No other associations between approach and avoidance-oriented coping strategies were statistically significant.

There were no significant differences between conditions on baseline values of outcomes or other variables, with the exception of higher baseline levels of problem-focused and emotional approach coping in the induced emotional expression condition versus the control condition (problem focused coping: *t*(132) = 2.43, *p* = .017; *M* = 3.22 , *SD* = .58 for induced emotional expression condition versus *M* = 2.97, *SD* = .62 for control condition; emotional approach coping: *t*(132) = 2.71, *p* = .008; *M* = 2.60, *SD* = .69 for induced emotional

expression versus *M* = 2.28, *SD* = .66 for control condition). Therefore, the main effect of both coping variables and their interaction with both time and condition on each outcome was examined in order to determine which covariates should be included in all subsequent models.

Women who completed the optional ten-week follow-up assessment did not differ significantly from women who completed only the one-week follow-up assessment on any outcome at baseline, with the exception of women who participated at 10 weeks reporting lower baseline positive affect than women who did not participate (*t*(117) = 2.24, *p* = .027; M = 29.87, SD = 7.33 for women who did not participate versus M = 26.85, SD = 7.38 for women who participated). Multilevel modeling analyses accounted for these differences by modeling baseline values with a randomly varying intercept in repeated-measure outcomes.

Ethnic Group Differences

On average, Latina women were younger (t(134) = -3.23, *p* = .002; *M* = 18.73, *SD* = 1.22 for Latina women versus *M* = 20.33, *SD* = 4.43 for non-Latina white women) and had a higher Body Mass Index (*t*(116) = 2.76, *p* = .007; *M* = 23.26, *SD* = 4.39 for Latina women versus *M* = 21. 25, *SD* = 2.47 for non-Latina white women) than non-Latina white women. Latina and non-Latina white women demonstrated significant differences in country of birth (χ^2 (2, *N* = 135) = 7.22, *p* = .027). Latinas were less likely to have been born in the US (86.8% for Latina women versus 95.6% for non-Latina white women), more likely to have been born in Latin America (12.1% for Latina women versus 0% for non-Latina white women), and reported fewer years residing in the US than non-Latina white women (*t*(134) = -2.69, *p* = .008; *M* = 17.68, *SD* = 2.83 for Latina women versus *M* = 19.60, *SD* = 5.50 for non-Latina white women). Similarly, Latinas' parents were less likely to have been born in the US (mothers: 14.3% for Latina women versus 84.4% for non-Latina white women; fathers: 12.1% for Latina women versus 82.2% for non-Latina white women) and more likely to have been born in Latin America (mothers: 84.6% for Latina women versus 0% for non-Latina white women; fathers: 83.5% for Latina women versus

.02% for non-Latina white women) than the parents of non-Latina white women (mothers: χ^2 (3, N = 136) = 88.38, p < .001; fathers: χ^2 (5, N = 136) = 90.99, p < .001).

Latina participants also self-reported disproportionately lower combined household incomes (χ^2 (7, N = 118) = 26.52, p < .001; see Table 8) and were more likely to receive scholarships/grants (χ^2 (1, N = 134) = 12.92, p < .001; 92.2% for Latina women versus 68.2% for non-Latina white women), likely accounted for by need-based financial aid resources. Latinas also demonstrated lower levels of US acculturation (t(130) = -4.87, p < .001; M = 68.43, SD = 8.75 for Latina women versus M = 75.58, SD = 5.41 for non-Latina white women), positive expressivity (t(134) = -2.87, p = .005; M = 5.29, SD = 1.02 for Latina women versus M = 5.80, SD = .88 for non-Latina white women), and rumination (t(134) = -2.18, p = .031; M = 3.60, SD = .68 for Latina women versus M = 3.86, SD = .63 for non-Latina white women) as well as higher stressor-specific emotional suppression (t(134) = 2.06, p = .040; M = 4.22, SD = 1.04 for Latina women versus M = 3.79, SD = 1.32 for no-Latina white women) than non-Latina white women. Furthermore, Latina women reported lower levels of baseline positive affect than non-Latina white women (t(117) = -4.51, p < .001; M = 26.46, SD = 7.20 for Latina women versus M = 32.70, SD = 6.25 for non-Latina white women). There were no other observed ethnic group differences on other outcomes or dispositional and stressor-specific variables.

Main and Moderated Effects of Induced Emotional Expression

The primary goal of this study was to examine the main and moderated effects of induced emotional expression on outcomes. Analyses evaluating the main effect of time as well as the quadratic effect time on each repeated measure outcome are presented in order to determine change across time and inclusion of these variables in subsequent models. Primary results present the main effect of condition and the interaction of condition with time in addition to the main effect of each proposed moderator and its interaction with condition. Covariate

analyses for two stressor-specific factors (i.e., problem-focused and emotional approach coping) that did not randomize across conditions also are presented.

Depressive symptoms. There was a significant main effect of time on depressive symptoms indicating that depressive symptoms significantly decreased across time (b = -1.08, t(210.38) = -2.06, p = .041). There was no significant quadratic time effect. Covariate analyses of the stressor-specific problem-focused and emotional approach coping, on which conditions differed at baseline, revealed no main effects or interactions with condition.

There was no significant main effect of condition, interaction of condition with time, main effect of ethnicity, or interaction of condition with ethnicity. Baseline US acculturation (b = -.23, t(131.05) = -3.00, p = .003), dispositional emotional acceptance (b = -.13, t(130.37) = -3.86, p < .001), stressor-specific cognitive reappraisal (b = -1.46, t(135.75) = -2.05, p = .043), and stressor-specific coping self-efficacy (b = -.08, t(130.96) = -5.88, p < .001) predicted lower depressive symptoms at baseline as well as at the one- and ten-week assessments. Dispositional affect intensity (b = 2.04, t(136.55) = 3.60, p < .001), dispositional rumination (b = 4.86, t(135.37) = 5.14, p < .001), stressor-specific emotional suppression (b = 1.64, t(134.76) = 2.82, p = .006), and stressor-specific avoidance coping (b = 3.77, t(136.79) = 2.55, p = .012) predicted higher depressive symptoms at baseline as well as the one- and ten-week assessments.

There were no main effects of other dispositional variables (i.e., negative expressivity, positive expressivity, reflection) or significant interactions of condition with any variable on depressive symptoms across time. For Latina women, there was no main effect of Latino enculturation or its interaction with condition on depressive symptoms.

Stressor-specific intrusive thoughts. A marginally significant main effect of time on intrusive thoughts indicated a trend for declining intrusive thoughts across time (b = -.50, t(205.85) = -1.83, p = .069). A significant quadratic time effect (b = 1.08, t(202.24) = 2.63, p =

.009) reflected the significant decrease in intrusive thoughts from baseline to one week ($t(131) = -3.34$, $p = .001$) and no significant change from one to ten weeks ($t(57) = 1.39$, $p > .10$). Covariate analyses of stressor-specific problem-focused and emotional approach coping revealed that emotional approach coping predicted higher intrusive thoughts across time ($b = 1.29$, $t(132.53) = 2.32$, $p = .022$). There was no significant main effect or interaction of problem-focused coping with condition. The main effect of emotional approach coping was controlled in all subsequent models.

There was no significant main effect of condition, interaction of condition with time, main effect of ethnicity, or interaction of condition with ethnicity. Stressor-specific coping self-efficacy ($b = -.03$, $t(132.15) = -3.02$, $p = .003$) predicted lower intrusive thoughts at baseline as well as at the one- and ten-week follow-up assessments. Dispositional affect intensity ($b = .67$, $t(131.71) = 2.06$, $p = .042$), dispositional rumination ($b = 1.72$, $t(134.37) = 3.10$, $p = .002$), dispositional reflection ($b = 1.23$, $t(131.46) = 2.24$, $p = .027$), and stressor-specific avoidance coping ($b = 1.85$, $t(133.68) = 2.31$, $p = .022$) predicted higher intrusive thoughts at baseline as well as the one- and ten-week assessments. Furthermore, rumination significantly moderated the effect of condition on intrusive thoughts across time (Table 9) such that induced emotional expression condition produced significantly lower intrusive thoughts across time than the control condition at high levels of rumination but not at mean or low levels of rumination (Figure 2).

There were no significant main effects or interactions of other factors (i.e., US acculturation, dispositional negative expressivity, dispositional positive expressivity, dispositional emotional acceptance, stressor-specific cognitive reappraisal, stressor-specific emotional suppression) with condition on intrusive thoughts across time. For Latina women, there was no main effect of interaction of Latino enculturation with condition on intrusive thoughts.

Negative affect. Negative affect declined significantly across time (b = -1.44, t(194.77) = -4.02, p < .001). A significant quadratic time effect (b = 2.13, t(198.77) = 4.07, p < .001) reflected the significant decrease in negative affect from baseline to one week (t(115) = -5.68, p < .001) and no significant change from one to ten weeks (t(58) = 1.08, p > .10). Covariate analyses including stressor-specific problem-focused and emotional approach coping revealed no main effects or interactions with condition. Analyses examining negative affect controlled for response time between session 2 and one week given its positive correlation with negative affect at one week.

There was no significant main effect of condition, interaction of condition with time, main effect of ethnicity, or interaction of condition with ethnicity. Dispositional emotional acceptance (b = -.07, t(126.74) = -3.21, p = .002) and stressor-specific coping self-efficacy (b = -.04, t(128.77) = -4.98, p < .001) predicted lower negative affect at baseline as well as at the one- and ten-week follow-up assessments. Dispositional affect intensity (b = 1.11, t(134.17) = 3.02, p = .003) and dispositional rumination (b = 2.99, t(131.22) = 4.96, p < .001) predicted higher negative affect at baseline as well as the one- and ten-week assessments. Furthermore, stressor-specific avoidance significantly moderated the effect of condition on negative affect (Table 10) such that induced emotional expression led to lower negative affect across time than the control condition at high levels of avoidance coping. Induced emotional expression condition predicted higher negative affect across time than the control condition at low levels of avoidance coping. There was no significant effect of condition at mean levels of avoidance. (Figure 3).

There were no main effects or interactions of other factors (i.e., US acculturation, dispositional negative expressivity, dispositional positive expressivity, dispositional reflection, stressor-specific cognitive reappraisal, stressor-specific emotional suppression, stressor-specific avoidance coping) with condition on intrusive thoughts across time. For Latina women, there was no main effect or interaction of Latino enculturation with condition on negative affect.

Positive affect. Positive affect decreased significantly across time (b = -1.21, t(200.14) = -1.21, p = .014). A significant quadratic time effect (b = 3.45, t(199.44) = 4.95, p < .001) reflected an overall decrease in positive affect from baseline to one week (t(115) = -6.39, p < .001) and significant increase from one to ten weeks (t(58) = 2.40, p = .019). Covariate analyses of stressor-specific problem-focused and emotional approach coping revealed significant main effects of both emotional approach coping (b = 3.06, t(129.20) = 3.94, p < .001) and problem-focused coping (b = 2.33, t(132.92) = 2.56, p = .012) such that both forms of coping predicted higher positive affect across time. Furthermore, emotional approach coping significantly moderated the effect of condition on positive affect across time (Table 11); induced emotional expression produced higher positive affect across time than the control condition at low levels of emotional approach coping but not at mean or high levels of emotional approach (Figure 4). There was no interaction of problem-focused coping with condition. The main effects of emotional approach and problem-focused coping and interaction of condition with emotional approach coping were controlled in subsequent models.

There was no significant main effect of condition or interaction of condition with time. A significant main effect of ethnicity (b = -4.93, t(141.34) = -4.40, p < .001) indicated that Latina women reported significantly lower positive affect across time than non-Latina white women. There was no interaction of condition with ethnicity. US acculturation (b = .13, t(131.59) = 2.05, p = .042), dispositional reflection (b = 1.51, t(127.52) =1.98, p = .050), dispositional emotional acceptance (b = .10, t(120.44) = 3.10, p = .002), stressor-specific coping self-efficacy (b = .05, t(127.07) = 4.22, p < .001), and stressor-specific cognitive reappraisal (b = 2.08, t(128.12) = 3.86, p < .001) predicted higher positive affect at baseline as well as at the one- and ten-week follow-up assessments. For Latina women, Latino enculturation (b = .13, t(95.56) = 2.17, p = .033) predicted higher positive affect at baseline as well as the one- and ten-week assessments, and the effect held when controlling for the effect of US acculturation.

Three factors significantly moderated the effect of condition on positive affect across time. Dispositional emotional acceptance moderated the effect of condition such that induced emotional expression generated higher positive affect across time than the control condition at high, mean, and low levels of emotional acceptance; however, the magnitude of this effect increased at higher levels of emotional acceptance (Table 12, Figure 5). Dispositional positive expressivity moderated the effect of condition such that induced emotional expression produced higher positive affect across time than the control condition at high, mean, and low levels of positive expressivity; however, the magnitude of this effect increased at higher levels of positive expressivity (Table 13, Figure 6). Stressor-specific coping self-efficacy moderated the effect of condition such that induced emotional expression produced higher positive affect across time than the control condition at high, mean, and low levels of coping self-efficacy; however, the magnitude of this effect increased at higher levels of coping self-efficacy (Table 14, Figure 7).

There were no significant main or interaction effects for other factors (i.e., dispositional affect intensity, dispositional negative expressivity, dispositional positive expressivity, dispositional rumination, stressor-specific emotional suppression, stressor-specific avoidance coping) with condition on positive affect.

Discussion

The aim of the current study was to examine the influence of dispositional emotional tendencies, stressor-specific coping, and cultural factors on outcomes of induced emotional expression (i.e., depressive symptoms, stressor-specific thoughts, negative affect, positive affect) in a sample of Latina and non-Latina White female undergraduate students experiencing chronic financial stress. In light of the evidence that both dispositional and stressor-specific approach-oriented processes generally predict better psychological adjustment than avoidance-oriented processes (Carver & White, 1994; Johnson et al., 2003; Jorm et al., 1998; Roth & Cohen, 1986; Suls & Fletcher, 1985; Taylor & Stanton, 2007), the interaction of induced

emotional expression with a selection of approach- and avoidance-oriented constructs, including stressor-specific cognitive reappraisal, stressor-specific emotional approach coping, and stressor-specific problem-focused coping for approach-oriented processes as well as dispositional rumination, stressor-specific emotional suppression, and stressor-specific avoidance for avoidance-oriented processes, was examined. The interaction of induced emotional expression with stressor-specific coping self-efficacy, acculturation, and Latino enculturation was also examined.

Most women reported a combined household income of $60,000 or less and at least some difficulty paying bills. Given that 42% of undergraduate students at UCLA belong to high-income families with combined household incomes at or greater than $106,000 (compared to 7% of the present sample who reported a combined household income at or greater than $100,000; University of California, 2015), women in this study represent a socioeconomically disadvantaged sector of the undergraduate population at UCLA. Textbooks, tuition, and housing were ranked as the top three most stress-inducing expenses for women. The majority of women received loans, scholarships/grants, and support from parents or other adults, and approximately half the sample was employed (similar to 49% of UCLA undergraduate students who reported being employed in 2014; University of California, 2015). Consistent with evidence that financial stress is associated with greater distress (Eisenberg et al., 2007), women reported elevated depressive symptoms at or above the clinically suggestive cutoff (Radloff, 1977) at baseline and one week as well as positive affect below undergraduate norms at baseline, one and ten weeks (Watson & Clark, 1999). Stressor-specific intrusive thoughts and general negative affect, however, were at or below norms (Sundin & Horowitz, 2003; Watson & Clark, 1999). For intrusive thoughts, this finding is likely due to the fact that the Impact of Event Scale is typically administered following the occurrence of a traumatic event (e.g., natural disaster, bereavement, violence, sexual abuse, war exposure, diagnosis of cancer) rather than the

experience of chronic stress (Sundin & Horowitz, 2003). Positive affect was negatively associated with depressive symptoms at each time point, but was not associated with either intrusive thoughts or negative affect. These results corroborate previous findings that low positive affect is specifically linked to depression (Brown, Chorpita, & Barlow, 1998) and that negative affect and positive affect are largely independent and can coexist (i.e., positive affect is not defined by the mere absence of negative affect; Folkman & Moskowitz, 2000; Watson & Clark, 1997). Depressive symptoms, intrusive thoughts, and negative affect were positively associated at each time point.

Consistent with national data documenting disparities in wealth distribution between Latinos and non-Latino whites (Stepler & Brown, 2015), a higher percentage of the sample identified as Latina (67%) than non-Latina white. Latinas also reported disproportionately lower combined household incomes and were more likely to receive scholarships and federal grants than non-Latina white women in the present sample, likely due to need-based financial aid resources. Latinas were less likely to have been born in United States and reported lower levels of US acculturation than non-Latina white women. Most Latinas had foreign-born mothers and fathers whereas most non-Latina white women had US-born parents. Consistent with evidence that Latino college students experience greater financial and overall stress than their non-Latino white peers (Quintana et al., 1991), Latinas reported lower positive affect across time than non-Latina white women.

Consistent with hypotheses, approach- and avoidance-oriented processes demonstrated distinct patterns of relationships with outcomes. Approach-oriented processes predicted greater psychological adjustment across time. Dispositional emotional acceptance predicted greater positive affect and lower depressive symptoms and negative affect, and stressor-specific cognitive reappraisal predicted greater positive affect and lower depressive symptoms. On the other hand, avoidance-oriented processes predicted greater distress across time. Dispositional

rumination predicted greater depressive symptoms, intrusive thoughts, and negative affect. Stressor-specific avoidance coping predicted greater depressive symptoms and intrusive thoughts and stressor-specific emotional suppression predicted greater depressive symptoms. These findings corroborate previous research (Carver & White, 1994; Johnson et al., 2003; Jorm et al., 1998; Roth & Cohen, 1986; Suls & Fletcher, 1985; Taylor & Stanton, 2007). Furthermore, the unique association of positive affect with approach-oriented processes in the current study supports evidence of a more consistent relationship between positive affect and greater use of approach-oriented coping strategies than positive affect and lower use of avoidance-oriented strategies (Ben-Zur, 2002, 2009; Folkman & Moskowitz, 2000; Moskowitz, Folkman, Collette, & Vittinghoff, 1996; Swart, Kortekaas, & Aleman, 2009; Tugade & Fredrickson, 2004).

Dispositional affect intensity, or the tendency to experience emotions strongly, was associated with greater depressive symptoms, stressor-specific intrusive thoughts, and negative affect across time. Affect intensity has previously been associated with anxiety, depressed mood, neuroticism, and avoidance-oriented coping (Flett, Blankstein, & Obertynski, 1996; Kahn, Barr, & Schneider, 2008; Mennin, Heimberg, Turk, & Fresco, 2005; van Middendorp et al., 2008), suggesting that affect intensity is not synonymous with engagement in emotional expression or other adaptive approach-oriented processes. Dispositional reflection predicted both greater stressor-specific intrusive thoughts as well as positive affect over time. According to the stress-response theory proposed by Horowitz and colleagues (Horowitz, 1976; Zilberg et al., 1982), the presence of intrusive thoughts is indicative of incomplete cognitive processing of a stressor. Therefore, the association of dispositional reflection with stressor-specific intrusive thoughts may reflect ongoing cognitive engagement or stressor-related thoughts due to incomplete processing. Dispositional reflection was positively correlated with positive expressivity, but not other dispositional factors, suggesting that it also may be uniquely related

to positive psychological processes. Further examination of outcomes associated with affect intensity and reflection in the context of chronic financial stress is warranted.

Consistent with hypotheses, stressor-specific coping self-efficacy, or women's perceived confidence in their capacity to cope with financial stress, was associated with better psychological adjustment and was the only factor that predicted better psychological adjustment across all four outcomes (i.e., greater positive affect and lower depressive symptoms, intrusive thoughts, and negative affect). Importantly, coping self-efficacy is a demonstrated mechanism by which psychosocial interventions improve wellbeing in chronically-stressed individuals (Chesney et al., 2003; Cleary & Stanton, 2015; Keefe et al., 2004; Stanton et al., 2013), suggesting that it may be a good target for intervention in young women struggling with financial stress. Protocols that promote coping skills training (Chesney et al., 2003; Keefe et al., 2004) or facilitate communication and garner support (Cleary & Stanton, 2015) may be effective in promoting coping self-efficacy in this population given that coping self-efficacy mediated the outcomes of these interventions in chronically-stressed individuals. Future research investigating the role of stressor-specific coping self-efficacy as a mechanism for effects of induced emotional expression is recommended.

Cultural factors also predicted psychological adjustment across time. Greater US acculturation predicted lower depressive symptoms and greater positive affect for both Latina and non-Latina white women. Latino enculturation predicted greater positive affect for Latinas (even when controlling for acculturation). These findings are consistent with meta-analytic evidence that acculturation is associated with both lower distress and greater positive psychological wellbeing (e.g., self-esteem, satisfaction with life, and positive affect), whereas enculturation is more consistently associated with greater positive psychological wellbeing (Smith & Silva, 2011; Yoon et al., 2013). Research also suggests that both acculturation and Latino enculturation are protective factors for Latino college students (Castillo, Conoley, &

Brossart, 2004; Ong, Phinney, & Dennis, 2006). These results underline the benefit of both adaptation to the majority culture (i.e., acculturation; Berry, 1997) and preservation of ties to the minority culture of origin for Latinas (i.e., enculturation; Contreras et al., 2002) and provide support for the examination of these processes as bi-dimensional.

Contrary to hypotheses, a significant main effect of induced emotional expression was not observed on psychological adjustment. Unlike most previous studies that have employed a control condition in which participants write about a neutral event (e.g., their plans for the day; Frattaroli, 2006; Smyth, 1998), the present active control condition involved participants disclosing factual (i.e., non-emotional) information about their financial stress, which accounts for exposure to the stressor. Given that stressor exposure is a hypothesized mechanism of induced emotional expression (Sloan & Marx, 2004; Sloan et al., 2005), inclusion of an active control might have contributed to both the absence of a main effect of condition and the decrease in depressive symptoms, intrusive thoughts, and negative affect over time across conditions (although simple passage of time cannot be ruled out as an explanation). Ethnicity did not interact with condition despite observed group differences indicating that induced emotional expression did not have differential effects across Latina and non-Latina white women. However, given the higher proportion of Latinas than non-Latina white women in the current study, there may not have been sufficient power to detect this interaction.

Although significant main effects of condition were absent, induced emotional expression demonstrated moderated effects through its interaction with dispositional and stressor-specific processes. Differences between conditions can be interpreted as the added benefit of induced emotional expression over and above stressor exposure. A primary aim of this study was to determine whether induced emotional expression confers greater benefit for individuals who endorse higher approach-oriented dispositional tendencies and stressor-specific processes (matching hypothesis; Austenfeld et al., 2006; Stanton et al., 2000) or those who endorse higher

avoidance-oriented dispositional tendencies and stressor-specific processes (deficit hypothesis; Baker & Berenbaum, 2007, 2008). Induced emotional expression predicted lower intrusive thoughts across time than the control condition at high levels of dispositional rumination, but not mean or low levels of dispositional rumination. Similarly, induced emotional expression predicted lower negative affect across time than the control condition at high levels of stressor-specific avoidance coping, but predicted greater negative affect than the control condition at low levels of stressor-specific avoidance. These findings are consistent with the deficit hypothesis and suggest that induced emotional expression is most effective at reducing distress for individuals with high avoidance-oriented tendencies. For these individuals, induced emotional expression conferred benefit over and above the stressor exposure and appeared to counteract engagement in maladaptive avoidance-oriented dispositional and stressor-specific coping processes. A previous study examining the effects of disclosing *positive* thoughts and feelings regarding participants' experience of breast cancer also found that women with high cancer-related avoidance demonstrated the greatest decrease in psychological distress (Stanton et al., 2002).

A different pattern emerged for the moderating effect of stressor-specific coping self-efficacy and approach-oriented processes on the effect of induced emotional expression on positive psychological wellbeing. Induced emotional expression predicted greater positive affect across time than the control condition at low, mean, and high levels of stressor-specific coping self-efficacy, dispositional emotional acceptance, and positive expressivity. The magnitude of this effect increased at higher levels of these variables, however. These findings suggest that induced emotional expression is most effective at increasing positive affect for individuals with corresponding higher levels of stressor-specific coping self-efficacy and dispositional approach-oriented tendencies. For these individuals, greater self-efficacy and approach-oriented

tendencies create a favorable context that heightens the benefit of induced emotional expression on positive affect specifically.

This study has several strengths, including its assessment of dispositional, stressor-specific, and cultural factors, longitudinal design, and inclusion of socioeconomically disadvantaged Latina and non-Latina white women experiencing chronic financial stress. The inclusion of men and individuals from other races and ethnicities to expand intergroup analyses is recommended. Future research should also examine these processes in non-undergraduate samples and groups of different ages. Repeated assessment of stressor-specific coping is also recommended so that change across time can be interrogated. A primary limitation was attrition at the optional ten week follow-up assessment, although it was addressed through multilevel modeling analyses that account for missing data on repeated-measure outcomes.

The current study underlines the importance of considering the influence of dispositional emotional tendencies and stressor-specific coping processes on the effect of induced emotional expression on depressive symptoms, intrusive thoughts, negative and positive affect. Consistent with previous research, approach-oriented dispositional tendencies and stressor-specific coping predicted better psychological adjustment over time whereas avoidance-oriented dispositional tendencies and stressor-specific coping predicted greater distress over time. Findings suggest that promoting emotional acceptance and cognitive reappraisal and decreasing rumination, avoidance, and emotional suppression through empirically-supported therapies that target these processes, such as Cognitive Behavior Therapy (Beck, 2011) and Acceptance and Commitment Therapy (Hayes, Luoma, Bond, Masuda, & Lillis, 2006), may be beneficial for young women coping with chronic financial stress. In addition, coping self-efficacy predicted improved adjustment across all four outcomes and is also likely a good target for intervention through protocols that promote coping skills (Chesney et al., 2003; Keefe et al., 2004) or facilitate communication and garner support (Cleary & Stanton, 2015). Findings also suggest induced

emotional expression both counteracts engagement in dispositional and stressor-specific avoidance-oriented processes to reduce distress and capitalizes on stressor-specific coping self-efficacy and dispositional approach-oriented processes to increase positive affect. Therefore, future research should investigate the potential benefits of identifying dispositional and stressor-specific factors in order to target at-risk individuals and capitalize on protective attributes when fostering emotional expression in preventive or therapeutic approaches.

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Table 1. Sample Characteristics (N = 136)

Age, mean (SD)	19.26	(2.82)	Loans, % (n)		
Body Mass Index, mean (SD)	22.53	(3.91)	Yes	61.0%	(83)
Years Residing in US, mean (SD)	18.32	(4.01)	No	36.8%	(50)
Ethnicity, % (n)			Missing	2.2%	(3)
Latina	66.9%	(91)	Amount/year, mean (SD), n = 71	9,068	(8,292)
Non-Latina White	33.1%	(45)	Scholarships/Grants, % (n)	23.10	(15)
Year at UCLA, % (n)			Yes	83.1%	(113)
First Year	50.7%	(69)	No	15.4%	(21)
Second Year	32.4%	(44)	Missing	1.5%	(2)
Third Year	8.8%	(12)	Amount/year, mean (SD), n = 94	14,679	(8,828)
Fourth Year	4.4%	(6)	Support from Parents/Adults, % (n)		
Other	.7%	(1)	Yes	66.2%	(90)
Missing	2.9%	(4)	No	32.4%	(44)
Household Income, % (n)			Missing	1.5%	(2)
Less than $20,000	23.5%	(32)	Amount/year, mean (SD), n = 57	6,231	(8,467)
$20,000 - $40,000	22.1%	(30)	Work Income, % (n)		
$40,000 - $60,000	16.2%	(22)	Yes	45.6%	(62)
$60,000 - $80,000	11.0%	(15)	No	52.2%	(71)
$80,000 - $100,000	6.6%	(9)	Missing	2.2%	(3)
$100,000 - $250,000	5.1%	(7)	Amount/month, mean (SD), n = 54	450	(305)
$250,000 - $500,000	1.5%	(2)	Difficulty Paying Bills, % (n)		
Over $500,000	.7%	(1)	No difficulty at all	6.6%	(9)
Missing	13.2%	(18)	Little difficulty	18.4%	(25)
BMI Classification, % (n)			Some difficulty	44.9%	(61)
Underweight, below 18.5	8.1%	(11)	Moderate difficulty	21.3%	(29)
Normal Weight, 18.5 - 24.9	62.5%	(85)	Great deal of difficulty	6.6%	(9)
Overweight, 25.0 - 29.9	11.8%	(16)	Missing	2.2%	(3)
Obese, 30.0 +	4.4%	(6)			
Missing	13.2%	(18)			

Relationship Status, % (n)		
Committed Relationship	37.5%	(51)
Single	54.4%	(74)
Unsure	4.4%	(6)
Missing	3.7%	(5)
Region of Birth		
US	89.7%	(122)
Latin America	8.15	(11)
Europe	2.2%	(3)
Other	0%	(0)
Missing	0%	(0)
Mother's Country of Birth		
US	37.5%	(51)
Latin America	56.6%	(77)
Europe	5.1%	(7)
Other	.7%	(1)
Don't Know	0%	(0)
Missing	0%	(0)
Father's Country of Birth		
US	35.3%	(48)
Latin America	56.6%	(77)
Europe	3.7%	(5)
Other	2.2%	(3)
Don't Know	2.2%	(3)
Missing	0%	(0)

Money at the End of Month, % (n)		
Some money left over	33.8%	(46)
Just enough to make ends meet	57.4%	(78)
Not enough to make ends meet	6.6%	(9)
Missing	2.2%	(3)
Lives with Parents/Family, % (n)		
Yes	30.1%	(41)
No	67.6%	(92)
Missing	2.2%	(3)

Table 2. Descriptive Statistics for Repeated Measure Outcomes

Scale	Time Point	n	M (SD)
Depressive Symptoms (CESD)	Baseline	136	17.78 (8.55)
	One Week	133	17.61 (10.28)
	Ten Week	60	15.10 (10.06)
Intrusive Thoughts (IES-R)	Baseline	136	8.79 (5.07)
	One Week	132	7.45 (4.99)
	Ten Week	60	7.90 (5.58)
Negative Affect (PANAS)	Baseline	119	19.42 (6.78)
	One Week	133	16.14 (5.45)
	Ten Week	60	16.81 (5.67)
Positive Affect (PANAS)	Baseline	119	28.35 (7.48)
	One Week	133	24.59 (7.96)
	Ten Week	60	26.80 (7.91)

Table 3. Zero-order Correlations between Primary Outcomes at Baseline (above diagonal) and One Week (below diagonal)

	Depressive Symp.	Intrusive Thoughts	Negative Affect	Positive Affect
Depressive Symp.	---	.24**	.61***	-.25**
Intrusive Thoughts	.49***	---	.43***	.13
Negative Affect	.67***	.39***	---	.01
Positive Affect	-.41***	.03	-.15	---

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

Table 4. Zero-order Correlations between Primary Outcomes at Ten Weeks

	Depressive Symp.	Intrusive Thoughts	Negative Affect	Positive Affect
Depressive Symp.	---	.45***	.55***	-.42**
Intrusive Thoughts		---	.35**	-.13
Negative Affect			---	-.01
Positive Affect				---

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

Table 5. Descriptive Statistics for Dispositional and Stressor-Specific Individual Difference

Dispositional Measure	n	M (SD)
US Acculturation (AMAS)	132	70.70 (8.51)
Positive Expressivity (BEQ)	136	5.45 (1.00)
Negative Expressivity (BEQ)	136	3.76 (1.09)
Affect Intensity (BEQ)	136	4.85 (1.16)
Rumination (RRQ)	136	3.69 (.67)
Reflection (RRQ)	136	3.24 (.79)
Emotional Acceptance (EA)	134	56.83 (19.43)
Latino Enculturation (AMAS)	90	63.84 (9.87)
Stressor-specific Measure	**n**	**M (SD)**
Cognitive Reappraisal (ERQ)	136	5.12 (.95)
Emotional Suppression (ERQ)	136	4.08 (1.15)
Coping Self-Efficacy (CSE)	135	154.88 (45.55)
Problem-Focused Coping (COPE)	134	3.09 (.61)
Emotional Approach Coping (COPE)	134	2.44 (.69)
Avoidance Coping (COPE)	134	1.97 (.47)

Table 6. Zero-order Correlations between Dispositional Individual Difference Factors

	US Acculturation	Positive Expressivity	Negative Expressivity	Affect Intensity	Rumination	Reflection	Emotional Acceptance
US Acculturation	---	.33***	.13	.16	-.05	.03	.22*
Positive Expressivity		---	.42***	.40***	-.14	.18*	.50***
Negative Expressivity			---	.38***	.02	.01	.16
Affect Intensity				---	.16	.14	.10
Rumination					---	-.14	-.35***
Reflection						---	.48***
Emotional Acceptance							---

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

Table 7. Zero-order Correlations between Stressor-specific Individual Difference Factors

	Cognitive Reappraisal	Emotional Suppression	Coping Self-Efficacy	Emo Approach Coping	Avoidance Coping	Prob-Focused Coping
Cognitive Reappraisal	---	.07	.60***	.29**	.18*	.18*
Emotional Suppression		---	-.19*	-.36**	.24**	-.15
Coping Self-Efficacy			---	.45***	-.14	.43***
Emo Approach Coping				---	.03	.42***
Avoidance Coping					---	-.15
Prob-Focused Coping						---

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

Table 8. Differences in Combined Household Income between Latina and non-Latina White Women.

	Household Income, % (n)	
	Latinas (n = 91)	Non-Latina Whites (n = 45)
Less than $20,000	29.7%(27)	11.1% (5)
$20,000 - $40,000	29.7% (27)	6.7% (3)
$40,000 - $60,000	15.4% (14)	17.8% (8)
$60,000 - $80,000	8.8% (8)	15.6% (7)
$80,000- $100,000	4.4% (4)	11.1% (5)
$100,000 - $250,0000	2.2% (2)	11.1% (5)
$250,000 - $500,000	0% (0)	4.4% (2)
Over $500,0000	0% (0)	2.2% (1)
Missing	9.9% (9)	20% (9)

Table 9. The Interaction of Condition and Dispositional Rumination and the Related Covariates as Predictors of Stressor-Specific Intrusive Thoughts in a Two-Level Multilevel Model (n = 134)

	Stressor-Specific Intrusive Thoughts				
	B	**SE**	**t**	**df**	**p value**
Intercept	-6.03	3.42	-1.76	135.47	.080
Time	-2.51	.78	-3.21	196.30	.002
Time*Time	1.13	.41	2.74	203.13	.007
Emotional Approaching Coping	1.45	.54	2.67	135.03	.008
Condition	8.38	4.10	2.04	133.08	.043
Dispositional Rumination	3.18	.83	3.85	133.65	< .001
Condition*Dispositional Rumination	-2.56	1.09	-2.35	133.50	.020
Simple Effects of Condition at:					
Mean - 1SD Dispositional Rumination	.75	1.08	.70	132.89	.488
Mean Dispositional Rumination	-1.05	.73	-1.44	135.06	.153
Mean +1SD Dispositional Rumination	-2.77	1.02	-2.73	135.75	.007

Table 10. The Interaction of Condition and Stressor-Specific Avoidance Coping and as Predictors of Negative Affect in a Two-Level Multilevel Model (n = 134)

	Negative Affect				
	B	**SE**	**t**	**df**	**p value**
Intercept	8.41	3.27	2.57	136.91	.011
Time	-5.30	1.02	-5.21	190.42	< .001
Time*Time	2.13	.53	4.06	196.38	< .001
One Week Follow-Up Response Time	.27	.18	1.52	142.69	.13
Condition	11.84	3.78	3.14	133.20	.002
Avoidance Coping	4.31	1.32	3.26	131.74	.001
Condition*Avoidance Coping	-6.19	1.86	-3.34	132.52	.001
Simple Effects of Condition at:					
Mean - 1SD Avoidance Coping	2.49	1.23	2.03	133.30	.045
Mean Avoidance Coping	-.37	.86	-.43	130.67	.671
Mean +1SD Avoidance Coping	-3.22	1.20	-2.69	129.82	.008

Table 11. The Interaction of Condition and Stressor-Specific Emotional Approach Coping and as Predictors of Positive Affect in a Two-Level Multilevel Model (n = 134)

	Positive Affect				
	B	**SE**	**t**	**df**	**p value**
Intercept	13.61	3.31	4.11	133.30	< .001
Time	-7.57	1.35	-5.61	191.27	< .001
Time*Time	3.49	.70	5.02	198.42	< .001
Problem-focused Coping	1.12	.94	1.19	127.40	.235
Condition	10.29	3.88	2.65	127.85	.009
Emotional Approach Coping	4.72	1.15	4.11	128.03	<.001
Condition*Emotional Approach Coping	-3.95	1.53	-2.58	127.82	.011
Simple Effects of Condition at:					
Mean - 1SD Emotional Approach Coping	3.37	1.49	2.25	128.97	.026
Mean Emotional Approach Coping	.67	1.07	.63	130.86	.533
Mean +1SD Emotional Approach Coping	-2.03	1.49	-1.36	129.75	.176

Table 12. The Interaction of Condition and Dispositional Emotional Acceptance and Related Covariates as Predictors of Positive Affect in a Two-Level Multilevel Model (n = 134)

	Positive Affect				
	B	**SE**	**t**	**df**	**p value**
Intercept	12.95	3.12	4.15	131.39	< .001
Time	-7.49	1.36	-5.52	190.93	< .001
Time*Time	3.42	.70	4.89	199.15	< .001
Problem-focused Coping	1.35	.89	1.53	125.54	.129
Emotional Approach Coping	4.32	1.40	3.09	128.52	.002
Condition*Emotional Approach Coping	-6.73	1.88	-3.58	126.71	< .001
Condition	7.68	3.71	2.07	124.68	.041
Dispositional Emotional Acceptance	.02	.05	.35	119.43	.726
Condition*Disp. Emotional Acceptance	.16	.07	2.48	119.59	.015
Simple Effects of Condition at:					
Mean - 1SD Disp. Emotional Acceptance	13.73	4.01	3.43	127.02	.001
Mean Disp. Emotional Acceptance	16.83	4.67	3.60	126.16	< .001
Mean +1SD Disp. Emotional Acceptance	19.94	5.54	3.59	125.02	< .001

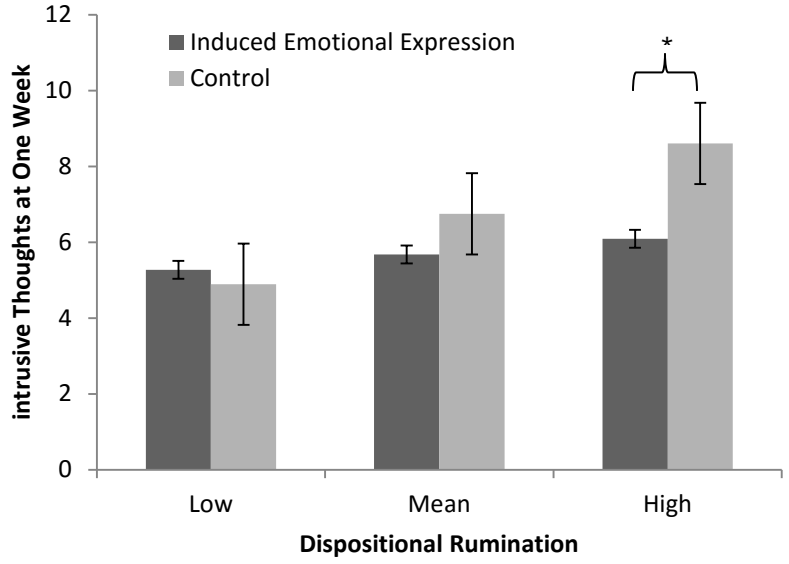
Table 13. The Interaction of Condition and Dispositional Positive Expressivity and Related Covariates as Predictors of Positive Affect in a Two-Level Multilevel Model (n = 134)

	Positive Affect				
	B	**SE**	**t**	**df**	**p value**
Intercept	14.07	3.97	3.54	124.69	.001
Time	-7.71	1.35	-5.73	182.89	< .001
Time*Time	3.58	.69	5.16	200.12	< .001
Problem-focused Coping	.76	.92	.83	127.09	.408
Emotional Approach Coping	4.75	1.33	3.58	132.66	< .001
Condition*Emotional Approach Coping	-5.41	1.73	-3.12	130.22	.002
Condition	-.81	5.85	-.14	123.12	.891
Dispositional Positive Expressivity	.09	.74	.13	122.97	.899
Condition*Disp. Positive Expressivity	2.69	1.20	2.24	123.77	.027
Simple Effects of Condition at:					
Mean - 1SD Disp. Positive Expressivity	11.17	3.92	2.85	130.99	.005
Mean Disp. Positive Expressivity	13.87	4.36	3.18	131.19	.002
Mean +1SD Disp. Positive Expressivity	16.57	5.06	3.28	130.45	.001

Table 14. The Interaction of Condition and Stressor-specific Coping Self-Efficacy and Related Covariates as Predictors of Positive Affect in a Two-Level Multilevel Model (n = 134)

	Positive Affect				
	B	**SE**	**t**	**df**	**p value**
Intercept	13.70	3.28	4.18	127.40	< .001
Time	-7.43	1.35	-5.50	191.37	< .001
Time*Time	3.36	.70	4.82	199.41	< .001
Problem-focused Coping	.32	.91	.35	125.04	.726
Emotional Approach Coping	4.52	1.14	3.97	129.89	< .001
Condition*Emotional Approach Coping	-5.92	1.59	-3.72	128.91	< .001
Condition	7.23	4.10	1.76	122.67	.081
Stressor-specific Coping Self-Efficacy	.02	.02	.97	125.03	.332
Condition*Coping Self-Efficacy	.05	.02	2.17	125.73	.032
Simple Effects of Condition at:					
Mean - 1SD Coping Self-Efficacy	12.88	3.66	3.52	126.07	.001
Mean Coping Self-Efficacy	15.23	4.00	3.81	127.50	< .001
Mean +1SD Coping Self-Efficacy	17.57	4.57	3.85	128.23	< .001

Figure 2. Differences in intrusive thoughts at one and ten weeks by condition at low, mean, and high levels of dispositional rumination. *p < .05. **p < .01. ***p < .001.



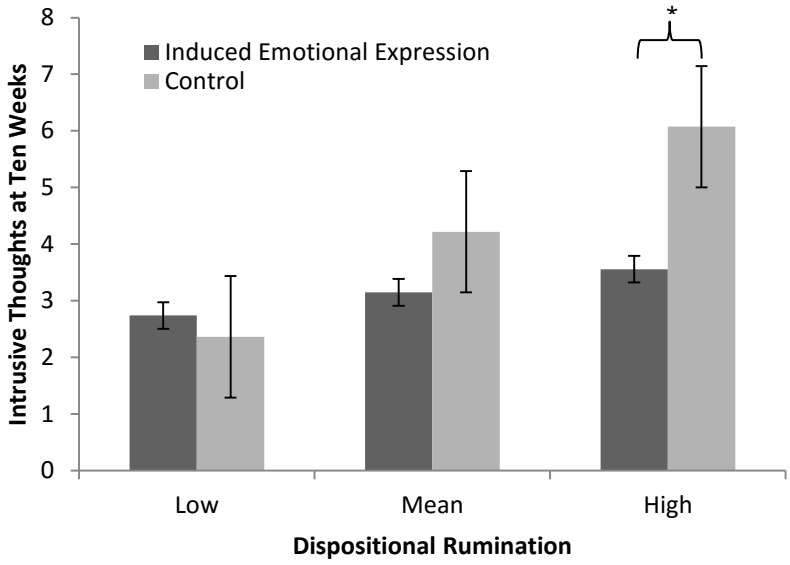


Figure 3. Differences in negative affect at one and ten weeks by condition at low, mean, and high levels of stressor-specific avoidance. *p < .05. **p < .01. ***p < .001.

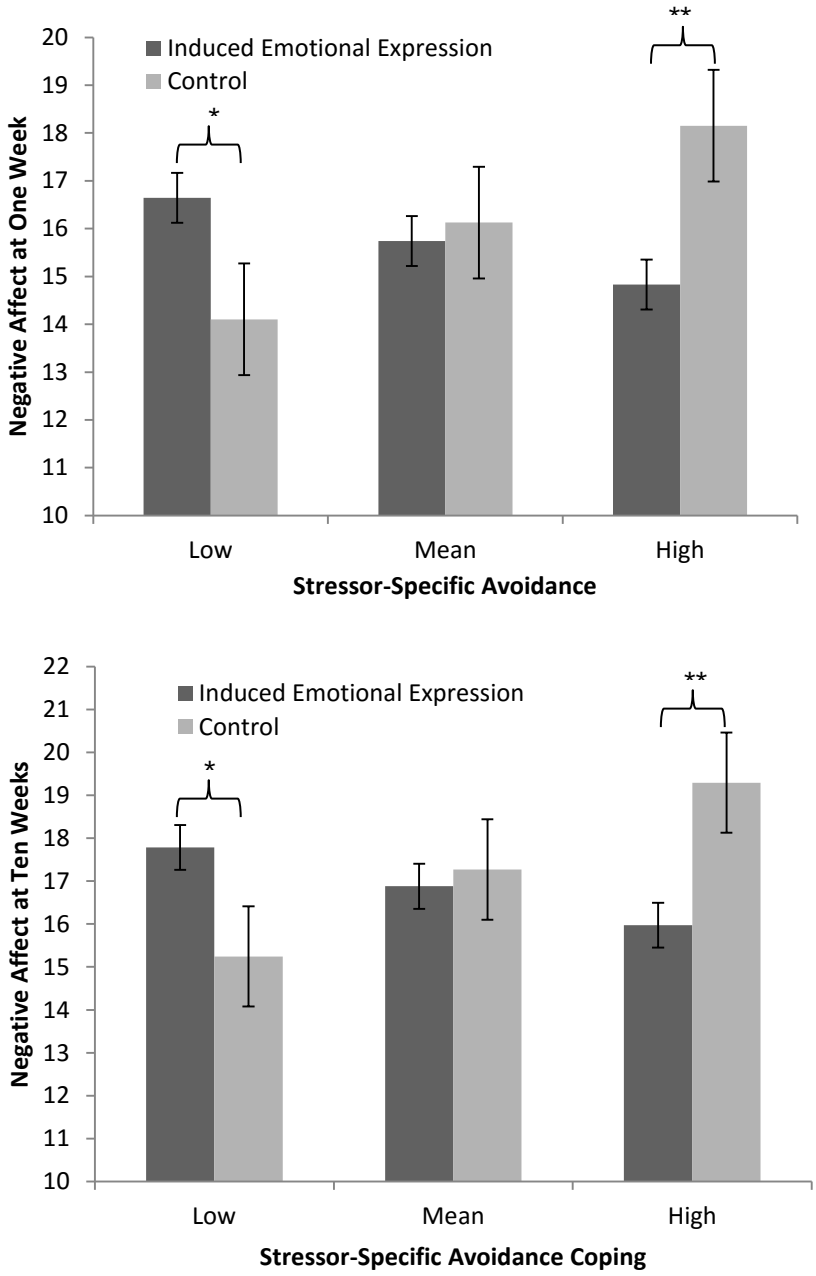
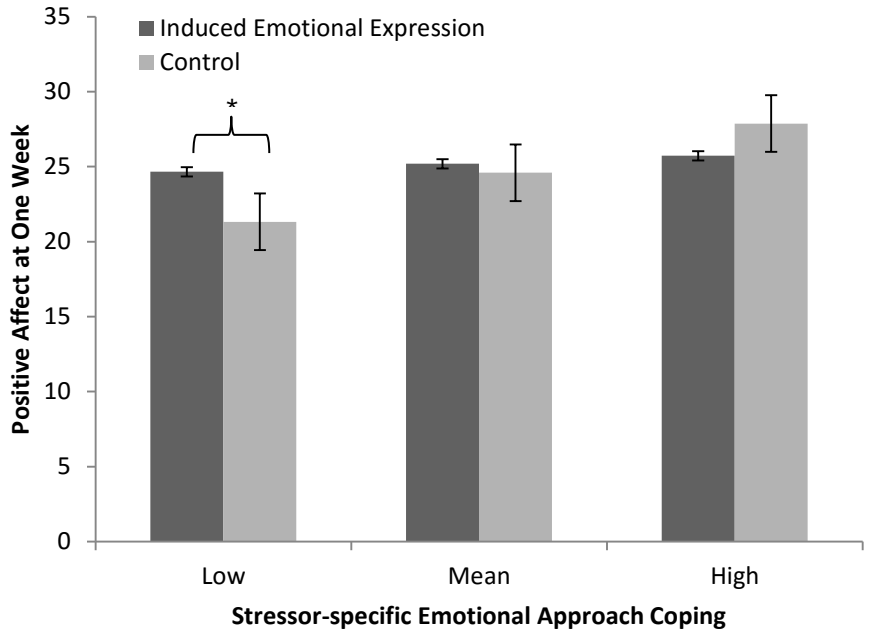


Figure 4. Differences in positive affect at one and ten weeks by condition at low, mean, and high levels of stressor-specific emotional approach coping. *p < .05. **p < .01. ***p < .001.



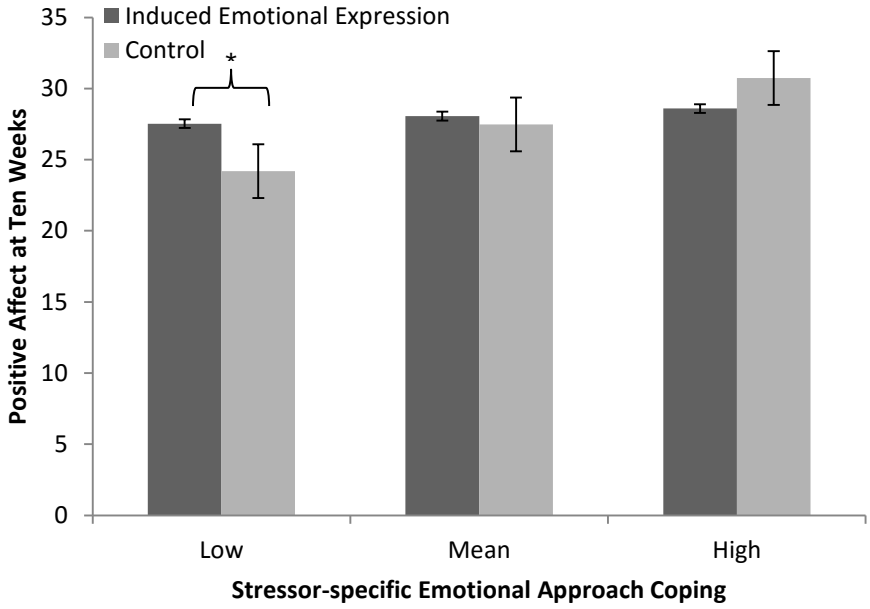


Figure 5. Differences in positive affect at one and ten weeks by condition at low, mean, and high levels of dispositional emotional acceptance. *p < .05. **p < .01. ***p < .001.

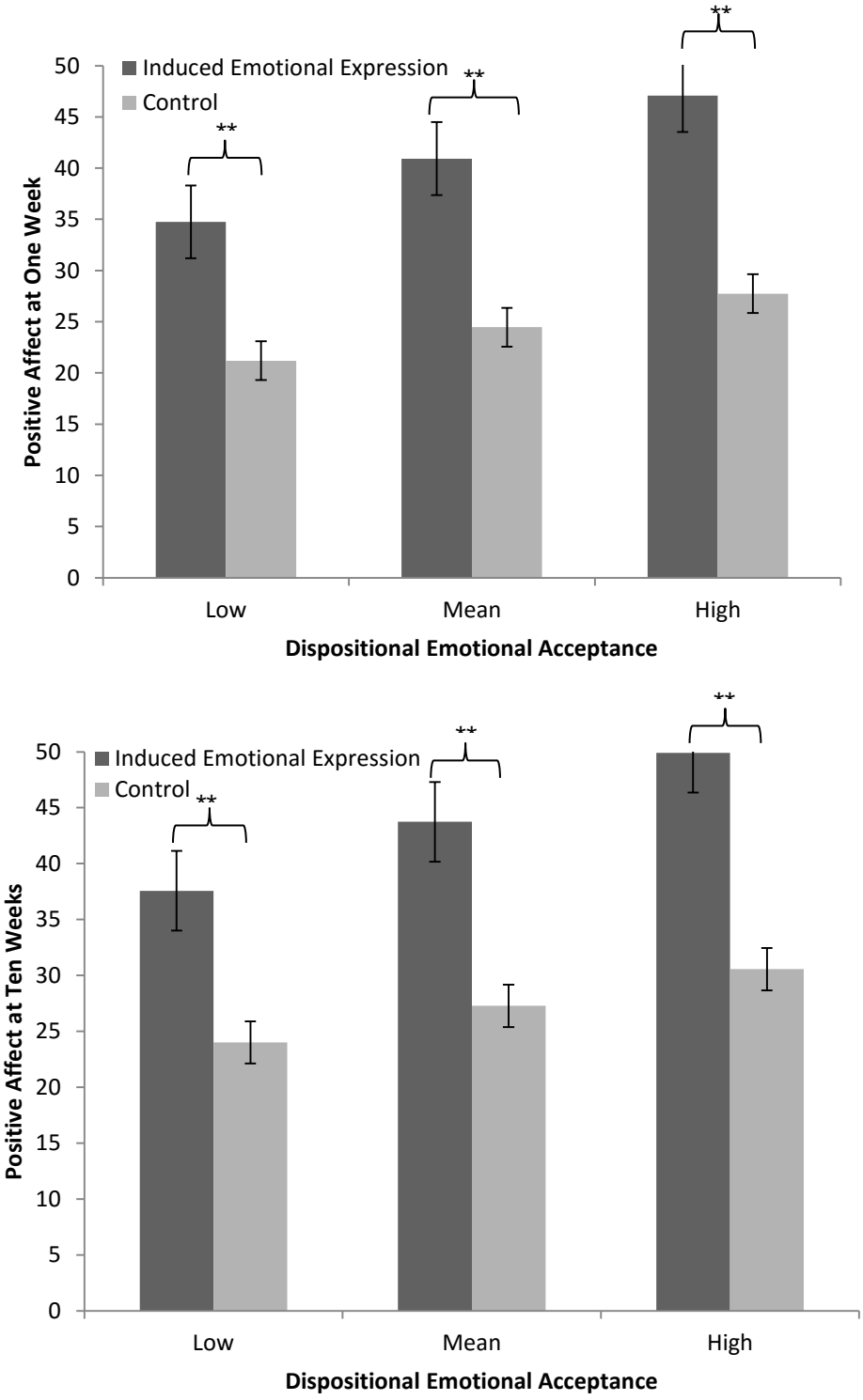


Figure 6. Differences in positive affect at one and ten weeks by condition at low, mean, and high levels of dispositional positive expressivity. *p < .05. **p < .01. ***p < .001.

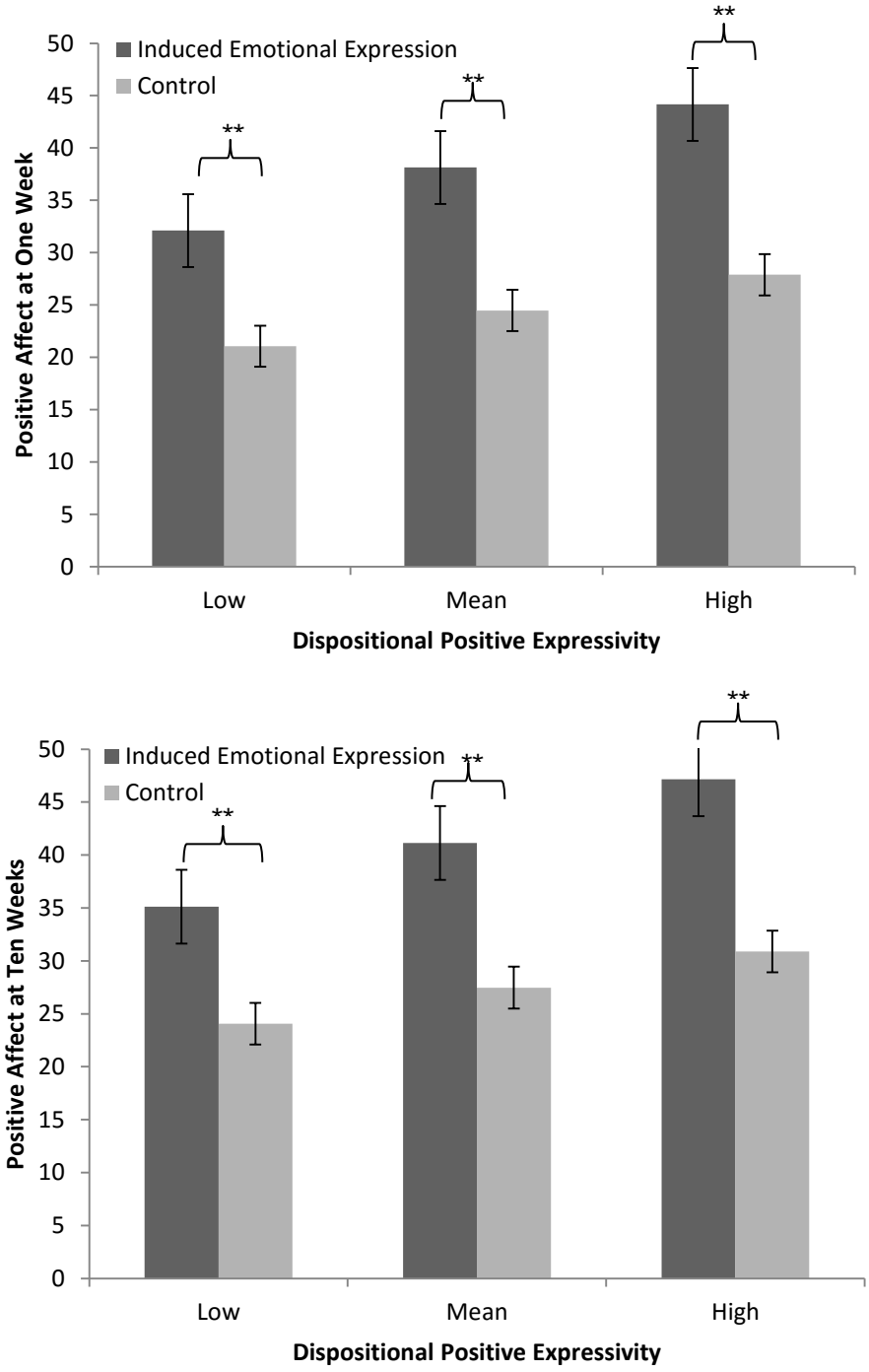
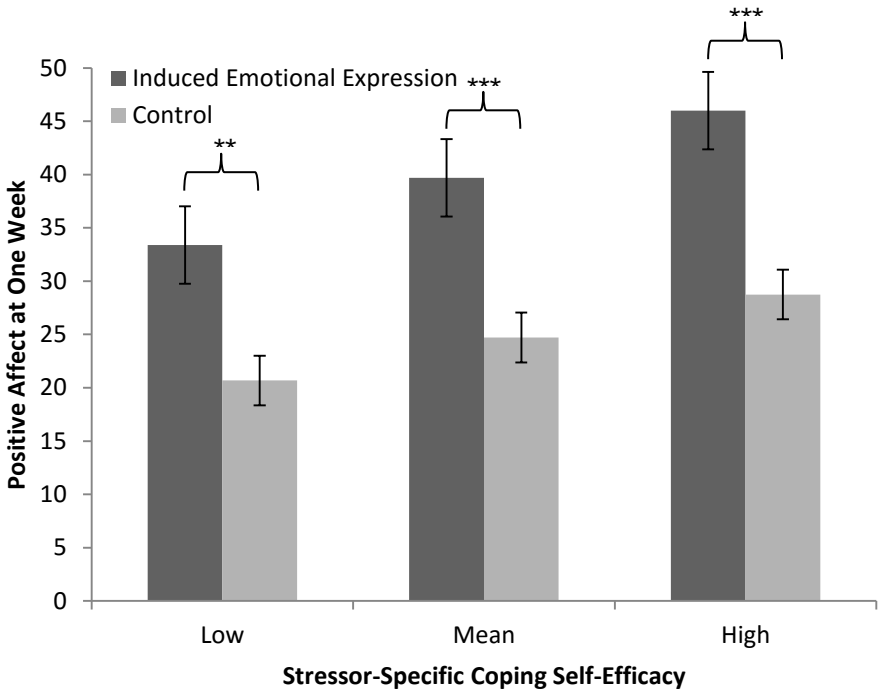
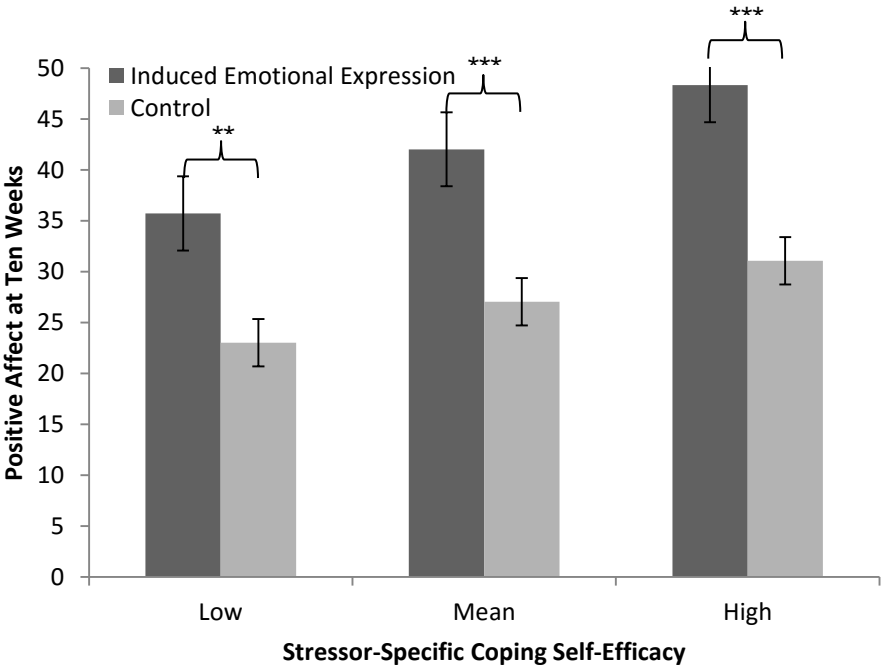


Figure 7. Differences in positive affect at one and ten weeks by condition at low, mean, and high levels of stressor-specific coping self-efficacy. *p < .05. **p < .01. ***p < .001.





Study 2

Sustaining Positive Across Time in the Context of Chronic Stress: A Model Examining the Association of Positive Affect with Dispositional Attributes and Stressor-specific Coping Processes

Abstract

The current study examined the relationship of positive affect with both dispositional emotional tendencies and stressor-specific coping in order to elucidate pathways by which positive affect is sustained over time in the context of chronic stress. Method: Data were drawn from an experiment in which young women (N = 136) were randomly assigned to discuss their emotions regarding chronic financial stress (induced emotional expression) or the facts regarding their finances (control) during two laboratory sessions. Study 1 analyses demonstrated no significant main effect of condition on psychological adjustment (including positive affect); however, the repeated measurement of positive affect at baseline, one week and ten weeks afforded the opportunity to examine the sustenance of positive affect over time. Results: Path model analyses demonstrated that dispositional emotional acceptance and reflection were positively associated with baseline positive affect, which in turn was positively associated with stressor-specific coping self-efficacy. Both baseline positive affect and stressor-specific coping self-efficacy predicted greater positive affect at one week, which subsequently predicted greater positive affect at ten weeks. This pattern of results did not vary by ethnicity. Contrary to hypotheses, specific approach-oriented coping strategies, lower distress, and improved recovery in momentary positive affect following stressor exposure did not account for the association between baseline positive affect and subsequent positive affect at one week and ten weeks. Conclusions: In conjunction with findings from Study 1, results suggest that stressor-specific coping self-efficacy may be an important target for intervention in young women coping with chronic financial stress, in that it predicts better psychological adjustment across time and specifically plays a role in the sustenance of positive affect in the context of chronic stress.

Keywords: positive affect, coping, dispositional, coping self-efficacy, chronic stress

Despite its prospective relationship with positive health outcomes, including lower rates of mortality (Chida & Steptoe, 2008), better self-reported health (Pressman & Cohen, 2005), and overall better mental health and emotional wellbeing (Lyubomirsky, King, & Diener, 2005), much remains to be understood regarding the function and correlates of positive affect in the context of stress. In particular, a paucity of research investigates how individuals sustain positive affect in the midst of stress (Folkman & Moskowitz, 2000). The aim of the current study was to examine the relationship of positive affect with both dispositional emotional tendencies and stressor-specific coping in order to elucidate possible pathways by which positive affect is sustained over time in the context of chronic stress.

Coping is broadly defined as efforts aimed at managing demands that tax or exceed resources in order to mitigate untoward outcomes and regulate emotional responses to stress (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Lazarus, 1966). The Broaden-and-Build theory posits that positive affect allows individuals to build psychosocial resources over time, including sustained or increased positive affect, through its association with more flexible thinking, expanded attention, facilitated idea generation, and a broadened range of behavioral responses (Fredrickson, 2001; Fredrickson & Joiner, 2002). Evidence that positive affect is associated with a wider range of behavioral and cognitive responses than negative affect (Fredrickson & Branigan, 2005; Isen, 2000) suggests that positive affect may promote more flexible or adaptive coping in the context of stress through its ability to recruit a more diverse repertoire of thought-action tendencies.

Indeed, a growing literature suggests that individuals with greater positive affect typically endorse greater use of approach-oriented coping strategies aimed at moving towards stressful demands and corresponding emotional responses, including social support seeking, problem-focused coping strategies, and acceptance, as well as lower use of avoidance-oriented strategies, such as denial and behavioral/mental disengagement (Ben-Zur, 2002, 2009;

Moskowitz, Folkman, Collette, & Vittinghoff, 1996). Two approach-oriented coping strategies most consistently associated with positive affect are cognitive reappraisal and emotional expression. Evidence suggests that positive affect affords individuals the cognitive flexibility to reappraise or reinterpret the meaning of stressors in a more balanced or positive way (i.e., cognitive reappraisal; Ben-Zur, 2002; Folkman & Moskowitz, 2000; Gross & John, 2003; Moskowitz, Folkman, Collette, & Vittinghoff, 1996; Tugade & Fredrickson, 2004). Positive affect is also associated with the greater acknowledgment and expression of emotion (Ben-Zur, 2009; Swart, Kortekaas, & Aleman, 2009), whereas suppression of emotional expression is associated with lower self-reported positive affect as well as lower peer-reported expressed positive affect (Gross & John, 2003).

Importantly, evidence from longitudinal studies suggests that the relationship of positive affect with approach-oriented coping strategies is bidirectional. Positive affect has been shown to predict an increase in coping through cognitive reappraisal and seeking emotional support (Yamasaki, Sakai, & Uchida, 2006), and both problem-focused coping and cognitive reappraisal prospectively predict positive affect in undergraduate students (Yamasaki et al., 2006) as well as caregivers facing imminent bereavement (Moskowitz et al., 1996). Moreover, positive affect and broad-minded coping (i.e., coping through flexible, broadened cognitions such as “I think of different ways to deal with the problem," " I try to step back from the situation and be more objective”) reciprocally enhance one another such that positive affect prospectively predicts increased broad-minded coping, *and* broad-minded coping prospectively predicts increased positive affect (Fredrickson & Joiner, 2002).

In addition to evidence supporting the overall association of positive affect with adaptive, approach-oriented coping processes, research suggests that individuals who endorse greater positive affect also tend to perceive themselves as capable of successfully coping with stressful demands. Both positive affect (Greenglass & Fiksenbaum, 2009) and the dispositional tendency

to express positive emotions (Gross & John, 1998) are associated with an individual's greater perceived ability to adapt to change and stress (e.g., viewing new and unusual situations as challenging and enjoyable, turning obstacles into positive experiences, finding ways around obstacles, liking challenges). Furthermore, positive affect and perceived coping self-efficacy are positively associated in university students, and both predict lower depressive symptoms in this population (Greenglass & Fiksenbaum, 2009). These findings suggest that coping self-efficacy may contribute to upward spirals of wellbeing and reciprocally influence positive affect.

Building upon theory (Fredrickson, 2001) and existing literature, the current study examined the relationship between positive affect and several stressor-specific approach-oriented (cognitive reappraisal, emotional approach, problem-focused) and avoidance-oriented (emotional suppression, avoidance) coping strategies that have documented associations with psychological adjustment (Moore, Zoellner, & Mollenholt, 2008; Penley, Tomaka, & Wiebe, 2002; Stanton, 2011). Furthermore, the association of positive affect with coping self-efficacy, an individual's perceived confidence in his/her capacity to cope with a stressor, was examined. Given evidence supporting the overall association of positive affect with adaptive, approach-oriented coping processes, it was hypothesized that positive affect would be associated with greater coping self-efficacy. Coping self-efficacy is associated with improved psychological adjustment (Chesney, Neilands, Chambers, Taylor, & Folkman, 2006) and therefore, in turn, may contribute to improved psychological adjustment and positive affect over time.

It is important to note that positive affect does not occur in isolation, but rather in aggregate with other psychosocial resources and as part of larger models of resilience (Steptoe, Dockray, & Wardle, 2009). Positive affect is associated with higher levels of social support, optimism, mastery, and self-esteem (Ben-Zur, 2002) as well as with favorable personality constellations (i.e., lower neuroticism and higher extraversion, agreeableness, openness to experience; Gross & John, 1995, 1998). Furthermore, evidence suggests that positive affect

predicts greater work success, higher income, and better quality social relationships as well as overall improved mental health and emotional wellbeing independent of negative affect (Lyubomirsky et al., 2005). Individuals who have the dispositional tendency to express more positive emotions are also rated as more likable by others (Gross & John, 1998).

Given its association with more stable constructs, such as psychosocial resources and personality traits, it is important to consider the relationship between positive affect and dispositional individual differences during the experience of chronic stress. The current study examines the relationship between positive affect and dispositional emotional tendencies. Individuals with greater dispositional approach tendencies generally evidence more positive psychological wellbeing and lower symptoms of depression and anxiety than individuals with greater dispositional avoidance tendencies (Carver & White, 1994; Johnson, Turner, & Iwata, 2003; Jorm et al., 1998). In order to examine both approach- and avoidance-oriented dispositional attributes, the current study examined emotional acceptance, reflection, and emotional expressivity as approach-oriented processes and rumination as an avoidance-oriented process (Moulds, Kandris, Starr, & Wong, 2007). Given that these factors have well-documented associations with psychological adjustment (Burgin et al., 2012; Campbell-Sills, Barlow, Brown, & Hofmann, 2006; Jones, Papadakis, Hogan, & Strauman, 2009; Nolen-Hoeksema, 2000) and existing studies have primarily examined the relationship of positive affect with psychosocial resources, personality traits, and stressor-specific coping strategies, the examination of dispositional emotional tendencies with positive affect expands upon the existing literature.

Current Study

Growing evidence supports the relationship of positive affect with both adaptive, approach-oriented coping and favorable dispositional individual differences. Nevertheless, the existing literature has largely examined these relationships separately. There is a need to

integrate these constructs by testing a unifying model in order to elucidate possible pathways by which positive affect is sustained over time in the context of chronic stress. The current study addresses this gap in the literature by examining the relationship of positive affect with both dispositional emotional tendencies and stressor-specific coping in the context of chronic stress using data from a sample of Latina and non-Latina white female undergraduate students experiencing chronic financial stress.

In the hypothesized model (Figure 1), baseline positive affect is posited to be associated with greater approach-oriented dispositional tendencies, emotional acceptance, positive expressivity, and reflection, and lower rumination. Previous research does not consistently support the association of affect intensity and negative expressivity with positive affect (Gross & John, 1998), therefore, directional hypotheses were not proposed for these constructs. It also was hypothesized that baseline positive affect would be associated with greater coping-self efficacy and approach-oriented coping strategies, including higher cognitive reappraisal, emotional approach coping, and problem-focused coping, and lower levels of avoidance-oriented coping and emotional suppression. Furthermore, the association of baseline positive affect with adaptive stressor-specific coping processes was expected to account for the association of higher baseline positive affect with improved recovery in momentary positive affect following stressor exposure, which in turn would predict improved psychological adjustment at a one-week follow-up. Finally, it was hypothesized that improved psychological adjustment at the one-week follow-up will predict greater positive affect at the ten-week follow-up, demonstrating a cyclical continuation of the upward spiral of well-being. This model builds upon the Broaden-and-Build theory, which posits that positive affect creates upward spirals of emotional well-being, including sustained or increased positive affect, through positive feedback loops associated with more flexible cognitive and behavioral responses than negative affect

(Fredrickson, 2001), including engagement in more adaptive coping strategies (Fredrickson & Joiner, 2002).

Overview of Design

The parent study for the proposed analyses was designed to examine the effect of induced emotional expression on psychological adjustment over time (Study 1). Participants for the current study were undergraduate women at the University of California, Los Angeles (UCLA) who report experiencing chronic financial stress. Chronic financial stress was chosen because it is a commonly-experienced, naturally-occurring stressor that is understudied and is associated with adverse academic outcomes, including higher rates of drop out and lower course loads (Joo, Durband, & Grable, 2008). Eligibility was restricted to women due to evidence of gender differences in both the experience of financial stress in undergraduate students (Brougham, Zail, Mendoza, & Miller, 2009) as well as the adaptive utility of emotional processing and expression (Stanton, 2011). Participants were randomly assigned either to describe their emotions around their financial stress (induced emotional expression condition) or state only factual information regarding their financial status (control condition) during two laboratory sessions 48 hours to one week apart (modeled after Stanton et al., 2000, Study 4). Repeated-measure outcomes including depressive symptoms, stressor-specific intrusive thoughts, negative affect, and positive affect were assessed at baseline as well as one- and ten-week follow-ups. Primary analyses from this study revealed no significant main effects of experimental condition (i.e., induced emotional expression versus control condition) on repeated-measure outcomes, including positive affect (Study 1). The longitudinal assessments, however, afforded the unique opportunity to examine the association of baseline positive affect with dispositional emotional tendencies and stressor-specific coping in order to predict the recursive maintenance of positive affect over time.

Method

Participants

Undergraduate students were screened using the "UCLA Psychology Department Subject Pool" online system as part of the enrollment requirement for the introductory psychology course or in order to receive extra credit for an upper-division psychology course. Latina and non-Latina white women who reported experiencing chronic financial stress in an initial screening were recruited to participate. Students were screened using a revised version of the Economic Strain Questionnaire (Pearlin, Menaghan, Lieberman, & Mullan, 1981) and were required to report an overall average of "*somewhat*" to "*very high*" financial stress for at least six months in order to be eligible (i.e., average rating of at least 3 on 9-item, 5-point scale assessing financial stress). Individuals were not eligible if they were 1. male, 2. a self-identified ethnicity or race other than Latino or non-Latino white, 3. not experiencing chronic financial stress, and/or 4. younger than 18 years of age. Of 4,403 students who completed the screening questionnaire, 398 eligible women were recruited and 136 were enrolled in the study.[3] Of the women enrolled, 3 (2.2%) women did not complete the one-week follow-up assessment (N = 133) and 76 (55.9%) did not complete the optional ten-week follow-up assessment (N = 60).

Procedure

Adapted from an experimental protocol previously used in our laboratory (Stanton et al., 2000, Study 4), participants were randomly assigned either to describe the emotions around their financial stress (induced emotional expression condition; n = 66, 48.5%) or state only factual information regarding their financial status (control condition; n = 70, 51.5%) during two laboratory sessions 48 hours to one week apart. Participants' disclosure condition assignment was constant across sessions.

[3] Eligibility criteria across all available studies in the "UCLA Psychology Department Subject Pool" determined which studies were listed for each student. Students were able to sign up for studies directly and most signed up for the current study directly or after receiving a recruitment email/call from a research assistant. Those who did not participate were usually not reached rather than actively declining.

The first session lasted approximately one hour: 35 to 40 minutes for the written informed consenting process and baseline questionnaire completion followed by 20 to 25 minutes for the experimental protocol, which included six-minute baseline, disclosure, and recovery periods (Figure 2). During the baseline period, participants were asked to sit still and quietly for six minutes. Instructions for the disclosure task were subsequently read to the participant. Instructions for the induced emotional expression condition were:

> "In our screening questionnaire, you indicated that you have been experiencing a significant amount of financial stress for six months or more. I'd like to ask you about that experience. We are specifically interested in the feelings and emotions you have been experiencing regarding your financial difficulty. Please be as specific as possible in talking about the emotions you have experienced throughout this financially stressful time. You might talk about how you felt when the financial stress began, how you felt when you experienced pronounced difficulty making ends meet, or feelings about trying to cope with the financial stress. Again, I'd like you to really focus on your feelings."

Instructions for the control condition were identical through the first two sentences followed with:

> "We are specifically interested in the facts regarding your financial difficulty. You might talk about when the financial stress began, what your budget is, how much money you owe in loans, any jobs you work to help support yourself, etc. Again, I'd like you to really focus on the facts regarding your financial difficulty."

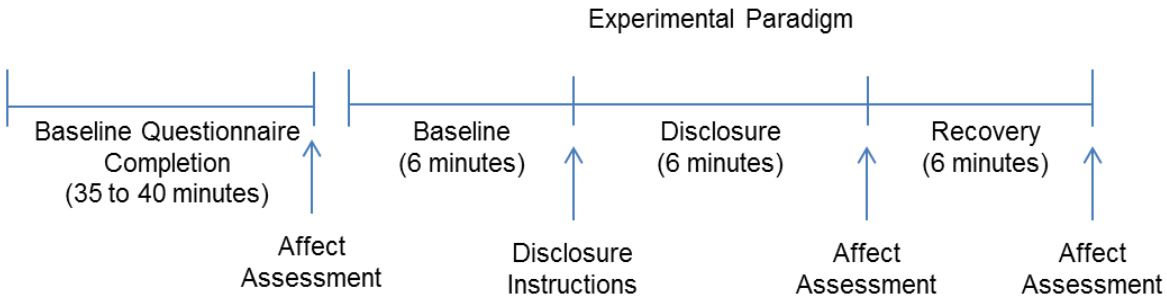
During the six-minute disclosure task, interviewers used condition-consistent prompts as necessary in order to maintain the integrity of condition assignment; however, interviewer participation was minimal. The disclosure task was followed by a recovery period in which participants were instructed to sit still and quietly for six minutes.

The second session took place two to seven days after the first session and lasted approximately 1.5 hours: 30 to 45 minutes for set-up and the experimental disclosure task

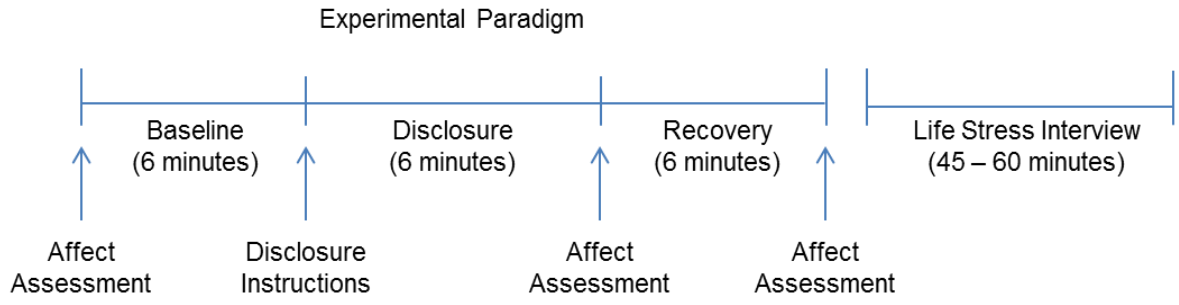
followed by 45 to 60 minutes for Life Stress Interview administration (for separate sub-study not described here). Participants completed the experimental procedure exactly as in the first session. Condition assignment was constant across sessions and participant disclosure was audio-recorded in order to ensure fidelity to the experimental manipulation (i.e., talking about facts in the control condition and emotions in the induced emotional expression condition). Condition assignment was distinguished with 98% accuracy by two independent raters who were unaware of condition assignment in a randomly selected sample 33% (*n* = 45) of recordings. Momentary positive and negative affect were assessed before the baseline period, immediately after the disclosure task, and after the recovery period using a self-report questionnaire.

Figure 2. Experimental paradigm and questionnaire administration in Sessions 1 and 2

Session 1



Session 2



One week after their second laboratory session, participants received a link to an online questionnaire in order to complete outcome measures (i.e., depressive symptoms, stressor-

related intrusive thoughts, and positive/negative affect). On average, participants responded to this questionnaire approximately nine days after completing their second laboratory session (*M* = 8.76, *SD* = 2.43). Eight weeks after Session 2, participants were invited to complete an optional online questionnaire in order to assess the same dependent variables. On average, participants responded to this questionnaire approximately ten weeks after their second laboratory session (*M* = 10.00, *SD* = 1.93).

As per departmental protocol, students participating to fulfill a course requirement for the introductory psychology course received three credits for participation corresponding with the duration of their participation of approximately three hours. . Students participating in order to receive extra credit for an upper-division psychology course also received credit for each hour of participation, with amount of class credit at the discretion of their professor. Credits were assigned by an experimenter through the UCLA Psychology Department Subject Pool online system. For participation in the optional ten-week follow-up questionnaire, participants were entered in a raffle for a $20 Target gift card. One $20 Target gift card was awarded each quarter; the recipient was selected randomly using a random number generator.

The University of California, Los Angeles (UCLA) Institutional Review Board approved study procedures, and written informed consent was obtained from all participants. Sessions were conducted individually by highly trained bachelor's-level research assistants and doctoral-level graduate students. Data were collected from January 2012 to August 2015.

Measures

Demographic variables. Demographic variables assessed as part of the screening questionnaire were age, ethnicity/race, year at UCLA, relationship status, years residing in US, participant's country of birth, and country of birth for both parents. Participants also self-reported height and weight, which were used to calculate Body Mass Index. Financial information assessed at baseline was combined household income as well as receipt and amount of loans,

scholarships/grants, support from parents or other adults, and employment income. Participants also provided descriptive information on perceived difficulty paying bills and making ends meet at the end of the month on 5- and 3-point Likert-type scales (from the modified Pearlin Financial Strain Scale; Pearlin et al., 1981).

Chronic financial stress. A 9-item modified version of the Pearlin Financial Strain Scale (Pearlin et al., 1981) was used to screen for perceived finance-specific stress lasting the past six months or longer. Participants rated their stress associated with difficulty covering specific expenses (e.g., How stressful it is for you to afford housing, such as an apartment or dorm, that is suitable?" "How stressful is it for you to afford your UCLA tuitions and fees?") on a 5-point Likert-type scale. Potential participants were required to have an average between 3.0 and 5.0 on this measure (indicative of "*moderately*" to "*very high*" financial stress) in order to be eligible. The measure demonstrated adequate internal consistency in this sample (α = .71).

One-week and momentary affect. The 20-item Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) was used to assess positive and negative affect during the past week at the baseline[4] as well as at the one- and ten-week follow-up assessments. Participants rated the extent to which they experienced different affect descriptors (e.g., "strong," "inspired," "proud" for positive affect and "nervous" "irritable," "upset" for negative affect) during the past week on a 5-point Likert-type scale. This measure demonstrated adequate internal consistency in this sample across time for both positive affect (baseline α = .90, one week α = .90, ten week α = .90) and negative affect (baseline α = .86, one week α = .84, ten week α = .85). Analyses of negative affect used data from the one-week follow-up assessment.

Momentary affect during the experimental paradigm was also assessed at baseline as well as following the disclosure and recovery periods during both laboratory sessions using the

[4] The PANAS administered at baseline was added after study initiation, accounting for the lower subsample of participants who completed it at this time point (*n* = 119 of 136).

same positive and negative affect subscales of the PANAS (see Figure 1). Participants rated the extent to which they have experienced the corresponding affect descriptors “in this moment” on a 5-point Likert-type scale. Analyses focused on momentary positive affect. This measure demonstrated adequate internal consistency in this sample across each period for both positive affect (session 1 baseline α = .87, session 1 disclosure α = .89, session 1 recovery α = .92; session 2 baseline α = .93, session 2 disclosure α = .92, session 2 recovery α = .93).

Dispositional emotional tendencies. Three questionnaires assessing dispositional emotional tendencies were administered at baseline.

The 16-item Berkeley Expressivity Questionnaire (BEQ; Gross & John, 1997) was used to assess dispositional tendencies to experience and express positive and negative emotions. Participants rated the extent to which they agreed with statements on three dimensions: negative expressivity (e.g., “Whenever I feel negative emotions, people can easily see exactly what I am feeling”), positive expressivity (e.g., “When I feel happy, my feelings show”), and affect intensity (e.g., “I experience my emotions very strongly”) on a 7-point Likert-type scale. This scale yields three average scores for positive expressivity, negative expressivity, and affect intensity, which demonstrated adequate internal consistency in this sample (negative affectivity α = .71, positive expressivity α = .73, affect intensity α = .80).

A short-form version of the Rumination and Reflection Questionnaire (RRQ; Trapnell & Campbell, 1999), assessed a dispositional tendencies to ruminate (6 items) and reflect (6 items). Participants rated the extent which they agreed with statements describing tendencies to ruminate (e.g., “I tend to “ruminate” or dwell on things that happen to me for a really long time afterward,” “Sometimes it is hard for me to shut off thoughts about myself”) and reflect (e.g., “I love to meditate on the nature and meaning of things,” “I often love to look at my life in philosophical ways") on a 5-point Likert scale. Average scores were calculated for rumination

and reflection. This measure demonstrated adequate internal consistency in this sample (rumination α = .78, reflection α = .88).

The 13-item Emotional Acceptance subscale of Control of Feelings Questionnaire (Benjamin, 1995) assessed the extent to which participants typically accept their emotional experience. Participants rated the extent to which they agree with statements describing acceptance of emotions (e.g., “I gently and warmly appreciate my feelings just as they are,” “I naturally and easily attend to my feelings”) on a 10-point scale. This scale yields an overall average score. This measure demonstrated adequate internal consistency in this sample (α = .95).

Stressor-specific coping. Four questionnaires were administered at baseline to assess stressor-specific coping. An adapted COPE Inventory (Carver, Scheier, & Weintraub, 1989) assessed participants’ use of the strategies specifically to cope with financial stress. A selected 16 items yielded average scores for problem-focused coping and avoidance-oriented coping. Participants rated their use of these strategies to cope with their financial stress on a 4-point Likert-type scale. Problem-focused coping was comprised of the planning and active coping items, which each consists of two items to assess planning (e.g., “I try to come up with a strategy about what to do”) and active coping (e.g., “I take action to try to make the situation better”). The four items were averaged. Avoidance coping is comprised of the denial, behavioral disengagement, and mental disengagement subscales. Each subscale consists of four items to assess denial (e.g., “I pretend that it hasn't really happened”), mental disengagement (e.g., “I turn to work or other substitute activities to take my mind off things”), and behavioral disengagement (e.g., “I admit to myself that I can't deal with it, and quit trying”); the 12 items were averaged. Both measures demonstrated adequate internal consistent in this sample (problem-focused coping α = .81; avoidance coping α = .80).

The Emotional Approach Coping scale (Stanton et al., 2000), comprised of the emotional processing and emotional expression subscales, assessed participants' use of emotional approach coping to cope with their financial stress. Each subscale consists of four items to assess emotional processing (e.g., "I take time to figure out what I'm really feeling") and expression (e.g., "I feel free to express my emotions"); the eight items were averaged. This measure demonstrated adequate internal consistency in this sample (α = .91).

The Emotion Regulation Questionnaire (ERQ; Gross & John, 2003), a 10-item measure, was adapted from the dispositional version to assess participants' use of cognitive reappraisal and emotional suppression in order to cope with their financial stress. Participants rated their use of strategies to regulate and manage their emotions (e.g., "I control my emotions regarding my financial stress by changing the way I think about the situation I'm in," "I keep my emotions regarding my financial stress to myself") on a 7- point Likert scale. The scale yields two average scores: cognitive reappraisal and emotional suppression. The measure demonstrated adequate internal consistency in this sample (cognitive reappraisal α = .87 and emotional suppression α = .72).

The 26-item Coping Self-Efficacy Scale (Chesney et al., 2006) assessed women's confidence in their ability to cope with financial stress. Participants rated their ability to cope (e.g., "Find solutions to your most difficult problems," "Leave options open when things get stressful") on a 10-point Likert-type scale. A total score was calculated from three subscales: confidence in using problem-focused coping, confidence in stopping unpleasant thoughts/emotions, and confidence in obtaining support. This measure demonstrated adequate internal consistency in this sample (α = .96).

Distress. Two measures of distress were administered at baseline as well as the one- and ten-week follow-up assessments. The Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977), a 20-item measure, assessed depressive symptomatology during the

past week. Participants rated their experience of symptoms (e.g., “I felt I could not shake off the blues, even with help from family or friends” “I was bothered by things that usually don’t bother me”) on a 4-point scale. Yielding atotal score, the CES-D demonstrated adequate internal consistency across time (baseline α = .86, one week α = .91, ten week α = .92). Analyses were conducted on the one-week follow-up assessment.

The 7-item Impact of Event Scale (IES; Horowitz, Wilner, & Alvarez, 1979) – Intrusion subscale assessed finance-related intrusive thoughts. Participants rated their experience of symptoms (e.g., “Any reminder brought back feelings about my finances,” “I had trouble staying asleep because thoughts about my finances came into my mind”) on a 4-point Likert-type scale. Yielding a total score, the measure had adequate internal consistency (baseline α = .84, one week α = .87, ten week α = .88). Analyses focused on the one-week follow-up assessment.

Statistical Analyses

All questionnaire data were scored such that an item completion rate of at least 75% was required for the computation of scale or subscale scores.

Multilevel modeling. In order to reduce the probability of Type I error due to multiple analyses, results from Study 1 of this dissertation were used to guide the selection of dispositional and stressor-specific factors to be examined in path model analyses. Dispositional emotional tendencies and stressor-specific coping variables included in path model analyses were restricted to those that demonstrated associations with positive affect in Study 1. The relationship of these variables with positive affect were assessed by two-level multilevel models with assessment points nested within individuals that tested the association of each individual difference factor with positive affect across time (i.e., baseline, one- and ten-weeks). All intercept variance components were significant and final models included a random intercept for time at Level 1 in order to capture the variability between participants in starting points (in the present study, individual differences in baseline positive affect). Analyses were conducted to

evaluate the main effect of time and quadratic effect of time on positive affect across time in order to characterize change across time. Analyses were conducted with SPSS version 18.0.

Path analyses. In order to examine the proposed model of the recursive maintenance of positive affect in the context of stress, a path model was fit to test pathways accounting for the relationship of baseline positive affect with positive affect at the ten-week follow-up. More specifically, a model was fit that accounted for the association of dispositional emotional tendencies with baseline positive affect and tested whether baseline positive affect predicts positive affect at the ten-week follow-up through its association with adaptive stressor-specific coping, improved positive affect recovery following stressor exposure, and reduced distress at the one-week follow-up. The association of baseline positive affect with demographic variables was assessed in order to identify covariates. Path models analyses were conducted controlling for covariates.

In order to examine whether improved psychological adjustment at the one-week follow-up predicts greater positive affect at the ten-week follow-up assessment, paths were tested from markers of psychological adjustment at one week (depressive symptoms, stressor-specific intrusive thoughts, negative affect, positive affect) to positive affect at ten weeks. In order to determine whether recovery of momentary positive affect following stressor exposure predicted improved psychological adjustment at the one-week follow-up assessment, paths were tested from momentary positive affect recovery to markers of psychological adjustment at one-week follow-up. In order to determine whether baseline positive affect predicted improved recovery of momentary positive affect following stressor exposure and whether this relationship is accounted for by the association of baseline positive affect with more adaptive stressor-specific coping processes, paths were tested from baseline positive affect predicting recovery of momentary positive affect following stressor exposure as well as paths from stressor-specific coping processes predicting momentary positive affect following stressor exposure (analyses

were conducted separately for session 1 and 2). Based on multilevel modeling results that identified the dispositional emotional tendencies and stressor-specific coping processes associated with positive affect, paths were tested from dispositional emotional tendencies to baseline positive affect and, in turn, from baseline positive affect to stressor-specific coping processes. Paths from stressor-specific coping processes predicting positive affect recovery were subsequently fit. The effect of experimental condition was controlled (analyses in Study 1 did not indicate significant effects of condition on these outcomes).

Model fit was evaluated according to criteria proposed by Hu and Bentler (1999). For the Comparative Fit Index (CFI), an index in which higher values is indicative of better fit , a value greater than or equal to .95 was used as a cutoff score to indicate good model fit. For the Root Mean Square Error of Approximation (RMSEA), lower values indicate better fit and a value less than or equal to .06 was used as a cutoff score to indicate good model fit. The possible range for these three indices is zero to one. A chi square test of model fit was also examined. This test examines whether model estimates are significantly different from the data, therefore a non-significant chi square test statistic was used to indicate good model fit. All models will be tested in Stata 12.0 (StataCorp) using maximum likelihood with missing values (MLMV, also known as Full Information Maximum Likelihood or FIML). This estimation method allows data from all participants to be included in path models because it does not delete missing data in a listwise fashion as with maximum likelihood (ML).

Results

Demographic Characteristics

Table 1 displays sample characteristics. Participants were on average 19 years old and were in their first (50.7%) or second (32.4%) year at UCLA. Participants self-identified as being Latina (*N* = 91, 66.9%) or non-Latina white (*N* = 45, 33.1%). On average, participants had a Body Mass Index of 22.5 and were within the normal weight classification band (63.5%). Most

women reported a combined household income of $60,000 or less (61.8%), at least some difficulty paying bills (69.9%), and just enough money to make ends meet at the end of the month (57.4%). Most women received loans (61.0%), scholarships/grants (83.1%), and support from parents or other adults (66.2%). Slightly less than half the women were employed (45.6%). On the screening questionnaire (1 = *not stressful at all*, 2 = *a little stressful*, 3 = *somewhat stressful*, 4 = *moderately stressful*, 5= *very stressful*), women reported financial stress above the screening cutoff of 3.0 (M = 3.77, SD = .58) and endorsed the highest level of financial stress around covering textbook expenses (M = 4.35, SD = .76), followed by expenses associated with tuition (M = 4.25, SD = .93), housing (M = 4.08, SD = .95), car/transportation (M = 3.90, SD =1.14), leisure activities (M = 3.85, SD = 1.01), food (M = 3.50, SD = 1.13), healthcare (M = 3.48, SD = 1.26), furniture/household items (M = 3.42, SD = 1.15), and clothing (M = 3.10, SD = 1.13).

Descriptive Statistics

Means and standard deviations for positive affect across time are displayed in Table 2. Positive affect at baseline and the one-week follow-up were positively correlated (r = .53, p < .001) as were positive affect at the one and ten week follow-ups (r = .57, p < .001). However, baseline positive affect was marginally positively correlated with positive affect at the ten week follow-up (r = .23, p = .075), indicating greater independence across the two time points. All assessments of momentary positive affect across both sessions were positively correlated (r = .56 - .88, p's < .001). Figure 3 displays reactivity and recovery in momentary positive affect in sessions 1 and 2. There was a decrease in momentary positive affect immediately following disclosure in both session 1 and 2 (t(123) = -10.07, p < .001 for session 1; t(113) = -6.98, p < .001 for session 2). Momentary positive affect continued to significantly decrease from immediately after disclosure to recovery in Session 1 (t(124) = -2.20, p = .03) but not in Session 2 (t(118) = -1.14, p = .26). Change in momentary positive affect did not vary by condition.

Means and standard deviations on dispositional and stressor-specific variables are displayed in Table 3. The bivariate correlations among dispositional and stressor-specific factors are shown in Tables 4 and 5, respectively. Overall, approach-oriented dispositional tendencies were correlated (i.e., reflection, emotional acceptance, positive expressivity) and rumination was not associated with approach-oriented factors, with the exception of being negatively correlated with emotional acceptance ($r = -.35$, $p < .001$). Affect intensity and negative expressivity were positively correlated with one another and positive expressivity (*r*'s = .38 - .42, *p*'s < .001) but were not correlated with any other factor. Similarly, approach-oriented coping strategies (i.e., emotional approach, problem-focused coping, cognitive reappraisal) were correlated (*r's* = .17 - .42, p's < .05) and coping self-efficacy was positively correlated with all three approach-oriented strategies (*r*'s = .43 - .60, *p*'s < .001) and negatively correlated with emotional suppression ($r = -.19$, $p < .05$). The two avoidance-oriented strategies (i.e., emotional suppression, avoidance coping) were positively correlated ($r = .24$, $p < .01$). Avoidance coping was positively correlated with cognitive reappraisal ($r = .18$, $p < .05$). No other associations between approach and avoidance-oriented coping strategies were statistically significant. The bivariate correlations between positive affect at baseline and both dispositional and stressor-specific factors are shown in Tables 6. Positive affect was positively associated with approach-oriented processes (i.e., dispositional emotional acceptance, dispositional reflection, dispositional positive expressivity, stressor-specific coping self-efficacy, stressor-specific cognitive reappraisal, stressor-specific problem-focused coping, and stressor-specific emotional approach coping) and unrelated to avoidance-oriented processes. Means and standard deviations on markers of adjustment at the one-week follow-up (i.e., depressive symptoms, stressor-specific intrusive thoughts, negative affect) are displayed in Table 7. The bivariate correlations between outcomes at baseline and the one-week follow-up are shown in Table 8.

The relationships between baseline positive affect and both demographic and financial variables (i.e., age, BMI, year at UCLA, relationship status, ethnicity, region of birth, years residing in the US, employment status, income, housing status, and receipt of loans, scholarships/grants, support from parents or other adults) were examined. Combined household income was significantly positively correlated with baseline positive affect (r = .312, p = .001). Baseline positive affect was higher for women who received financial support from parents (t(117) = 2.56, p = .012; M = 29.52 , SD = 7.51 for women receiving support versus M = 25.85, SD = 6.86 for women not receiving support) and women who lived at home with parents or other family members (t(116) = 2.26, p = .026; M = 30.48, SD = 7.79 for women living at home versus M = 27.22, SD = 7.06 for women not living at home). Latina women reported lower levels of baseline positive affect than non-Latina white women (t(117) = -4.51, p < .001; M = 26.46, SD = 7.20 for Latina women versus M = 32.70, SD = 6.25 for non-Latina white women). No other associations were observed.

Association of Positive Affect with Dispositional and Stressor-specific Factors

Multilevel modeling tested change across time in positive affect (i.e., baseline, one- and ten-weeks) as well as the relationships between positive affect and the following dispositional emotional tendencies: positive expressivity, negative expressivity, affect intensity, rumination, reflection, and emotional acceptance. Positive affect decreased significantly across time (b = -1.21, t(200.14) = -1.21, p = .014). A significant quadratic time effect (b = 3.45, t(199.44) = 4.95, p < .001) reflected an overall decrease in positive affect from baseline to one week (t(115) = -6.39, p < .001) and significant increase from one to ten weeks (t(58) = 2.40, p = .019). Both dispositional reflection (b = 1.54, t(129.56) = 2.03, p = .045) and dispositional emotional acceptance (b = .10, t(125.65) = 3.08, p = .003) predicted greater positive affect across time. There was no significant association of positive affect with positive expressivity, negative expressivity, affect intensity, or rumination. The relationship of positive affect with stressor-

specific coping processes (i.e., cognitive reappraisal, emotional suppression, emotional approach coping, avoidance coping, problem-focused coping, and coping self-efficacy) was examined. Cognitive reappraisal (b = 2.08, t(130.03) = 3.91, p < .001), emotional approach coping (b = 3.07, t(129.35) = 3.92, p < .001), problem-focused coping (b = 2.33, t(132.67) = 2.54, p = .012,) and coping self-efficacy (b = .05, t(128.43) = 4.24, p < .001) predicted greater positive affect across time. There was no significant association with emotional suppression or avoidance coping with positive affect.

Path Model Analyses

In order to examine whether improved psychological adjustment at the one-week follow-up predicted greater positive affect at the ten-week follow-up, paths were tested from markers of psychological adjustment at one week (depressive symptoms, stressor-specific intrusive thoughts, negative affect, and positive affect) to positive affect at ten weeks. Positive affect at the one-week follow-up significantly predicted positive affect at the ten-week follow-up (z = 5.22, p < .001); other associations were non-significant (p > .10) and were removed from the model.

Next, paths were fit to examine whether recovery of momentary positive affect during stressor exposure predicted greater positive affect at the one-week follow-up and whether baseline positive affect predicted improved recovery of positive affect following stressor exposure. Neither association was significant, and recovery in momentary positive affect was removed from the model. Based on multilevel modeling results that identified the dispositional emotional tendencies and stressor-specific coping processes associated with positive affect, paths were incorporated from dispositional emotional acceptance and reflection to baseline positive affect as well as from baseline positive affect, in turn, to stressor-specific coping self-efficacy, emotional approach coping, problem-focused coping, and cognitive reappraisal. Paths from the stressor-specific coping processes predicting positive affect at one week were tested. Coping self-efficacy was significantly predicted greater positive affect at the one-week follow-up

(z = 3.30, p = .001); other associations were non-significant (p > .10) and were removed from the model. Modification indices indicated improved model fit when incorporating a path from dispositional emotional acceptance predicting greater coping self-efficacy (z = 7.22, p < .001) and this path was added.

The final model (Figure 4) demonstrated very good model fit: RMSEA < .001, CFI = 1.00, chi square = 5.12, p = .824. Dispositional reflection and emotional acceptance were positively associated (z = 5.04, p < .001) and were significantly associated with greater positive affect at baseline (z = 2.19, p = .029 and z = 3.12, p = .002, respectively). Dispositional emotional acceptance was associated with greater stressor-specific coping self-efficacy (z = 7.22, p < .001) and baseline positive affect was marginally associated with greater stressor-specific coping self-efficacy (z =1.62, p =.10)[5]. Both baseline positive affect and stressor-specific coping self-efficacy, in turn, significantly predicted greater positive affect at one week (z = 5.29, p < .001 and z = 3.30, p = .001, respectively). Positive affect at one week predicted greater positive affect at ten weeks (z = 5.22, p < .01). The effect of condition on positive affect at the one- and ten-week follow-up assessments was controlled in the model. Analyses controlling for the relationship of baseline positive affect with demographic covariates (i.e., income, ethnicity, housing status, and receipt of financial support from parents) did not alter any observed associations or model fit. Analyses of the final model were also run separately for Latina and non-Latina white women. The pattern of results was constant across groups.

Discussion

The aim of the current study was to examine the relationship of positive affect with both dispositional emotional tendencies and stressor-specific coping in order to elucidate pathways by which positive affect is sustained over time in the context of chronic stress. Despite growing

[5] The positive association between baseline positive affect and coping self-efficacy is highly significant (z = 3.81, p < .001) when not controlling for the direct association between dispositional emotional acceptance and coping self-efficacy, however including this direct association improves model fit and was retained.

evidence that supports the relationship of positive affect with approach-oriented coping (e.g., cognitive reappraisal, emotional expression, problem-focused coping, acceptance; Ben-Zur, 2002, 2009; Folkman & Moskowitz, 2000; Gross & John, 2003; Moskowitz et al., 1996; Swart et al., 2009; Tugade & Fredrickson, 2004), coping self-efficacy (Greenglass & Fiksenbaum, 2009; Gross & John, 1998), and favorable dispositional individual differences (e.g., optimism, mastery, extraversion; Ben-Zur, 2002; Gross & John, 1995, 1998), the existing literature has largely examined these relationships separately and there is a paucity of research identifying psychological conditions and coping processes that sustain positive affect in the midst of stress (Folkman & Moskowitz, 2000).

In order to address this gap in the literature, a unifying model was tested in a sample of Latina and non-Latina White female undergraduate students experiencing chronic financial stress. This model drew from the Broaden-and-Build theory (Fredrickson, 2001), which posits that positive affect creates upward spirals of emotional well-being, including sustained or increased positive affect, through positive feedback loops, including engagement in more adaptive coping strategies (Fredrickson & Joiner, 2002). The current study utilized data from a parent study that examined induced emotional expression on psychological adjustment over time (Study 1). Primary analyses demonstrated no significant main effect of condition on psychological adjustment (including positive affect); however the repeated measurement of positive affect at baseline, one- and ten-weeks afforded the opportunity to examine the sustenance of positive affect over time and its relationship with dispositional emotional tendencies and stressor-specific coping processes.

As outlined in Study 1, most women reported a combined household income of $60,000 or less and at least some difficulty paying bills. Given that 42% of undergraduate students at UCLA belong to high-income families with combined household incomes at or greater than $106,000 (compared to 7% of the present sample who reported a combined household income

at or greater than $100,000; University of California, 2015), women in this study represent a socioeconomically disadvantaged sector of the undergraduate population at UCLA. Textbooks, tuition, and housing were ranked as the top three most stress-inducing expenses for women. The majority of women received loans, scholarships/grants, and support from parents or other adults, and approximately half the sample was employed (similar to 49% of UCLA undergraduate students who reported being employed in 2014; University of California, 2015). Consistent with evidence of the taxing effect of financial stress on mental health (Eisenberg, Gollust, Golberstein, & Hefner, 2007), women reported positive affect below undergraduate norms at baseline, one- and ten- weeks (Watson & Clark, 1999). The association of baseline positive affect with demographic factors was also examined. Combined household income was positively associated with baseline positive affect. Baseline positive affect was higher in women who received financial support from parents and women who lived at home with parents or other family members. Latinas also reported lower positive affect at baseline than non-Latina white women.

Consistent with hypotheses, dispositional and stressor-specific approach-oriented processes, including dispositional emotional acceptance, dispositional reflection, stressor-specific cognitive reappraisal, stressor-specific emotional approach coping, and stressor-specific problem-focused coping, predicted greater positive affect across time. Also consistent with hypotheses, stressor-specific coping self-efficacy predicted greater positive affect across time. Avoidance-oriented processes (i.e., dispositional rumination, stressor-specific avoidance, stressor-specific emotional suppression) did not predict positive affect. The unique association of positive affect with approach-oriented processes supports evidence of a more consistent relationship between positive affect and greater use of approach-oriented coping strategies than positive affect and lower use of avoidance-oriented strategies (Ben-Zur, 2002, 2009; Folkman & Moskowitz, 2000; Moskowitz et al., 1996; Swart et al., 2009; Tugade & Fredrickson, 2004).

Path model analyses demonstrated that dispositional emotional acceptance and reflection were positively associated with baseline positive affect, which in turn was positively associated with stressor-specific coping self-efficacy. Both baseline positive affect and stressor-specific coping self-efficacy predicted greater positive affect at one week, which subsequently predicted greater positive affect at ten weeks. Contrary to hypotheses, stressor-specific coping strategies, including cognitive reappraisal, problem-focused coping, and emotional approach coping, did not account for the association between positive affect at baseline and positive affect at one- and ten-weeks (despite an overall association with greater positive affect across time demonstrated by multilevel modeling results). These results suggest that a woman's perceived confidence in her ability to cope with financial stress (i.e., coping self-efficacy), not engagement with specific approach-oriented strategies, may be a vehicle through which positive affect reciprocally sustains itself over. The pattern of results in this model held when controlling for covariates and did not vary by ethnicity. However, given the higher proportion of Latinas than non-Latina white women in the current study, there may not have been sufficient power to detect differential effects across ethnic groups.

There are documented benefits of approach-oriented coping on psychological adjustment (Roth & Cohen, 1986; Suls & Fletcher, 1985; Taylor & Stanton, 2007), including its association with positive affect (Ben-Zur, 2002, 2009; Folkman & Moskowitz, 2000; Moskowitz et al., 1996; Swart et al., 2009; Tugade & Fredrickson, 2004). Given that coping self-efficacy has been shown to mediate the effect of interventions that promote approach-oriented coping skills (Chesney, Chambers, Taylor, Johnson, & Folkman, 2003; Keefe et al., 2004), evidence suggests that coping self-efficacy and approach-oriented processes are related, not separate, constructs. Indeed, coping self-efficacy was positively associated with every approach-oriented coping strategy assessed in the current study (i.e., cognitive reappraisal, emotional approach coping, problem-focused coping). Future research is needed to disentangle the effects of coping

self-efficacy and engagement in approach-oriented coping strategies in order to characterize their relationship with one another and positive affect across time. In particular, repeated assessments over time of both coping self-efficacy and approach-oriented coping strategies would allow for the interrogation of lagged effects in order to determine whether increased use of approach-oriented strategies precedes increases in coping self-efficacy and increased coping self-efficacy precedes increases in use of approach-oriented strategies.

Contrary to hypotheses, markers of distress at one week, including depressive symptoms, intrusive thoughts, and negative affect, were not associated with positive affect at baseline or ten weeks. However, these findings are not surprising when considering analyses from Study 1 that demonstrated that positive affect was not associated with either intrusive thoughts or negative affect at any time point. Despite the cross-sectional inverse relationship of positive affect with depressive symptoms at one week, depressive symptoms was not associated with positive affect across time and does not appear to contribute to its sustenance over time in the current study. Also contrary to hypotheses, improved recovery in momentary positive affect following the disclosure paradigm was not associated with stressor-specific coping processes or positive affect at baseline or one week. Some evidence suggests that expressive disclosure paradigms elevate distress immediately following disclosure (Pennebaker, 1997) despite benefits over longer periods of time (Frattaroli, 2006; Smyth, 1998). The fact that momentary positive affect did not demonstrate a pattern of recovery (i.e., momentary positive affect, on average, did not increase or return to baseline levels following the recovery period) may have influenced results. Further research is needed to investigate whether there is a link between improved recovery in momentary positive affect following stressor exposure and the sustenance of positive affect over longer periods of time (e.g., weeks).

This study has several strengths, including the repeated measurement of positive affect across time, assessment of momentary positive affect, and inclusion of a selection of both

approach- and avoidance-oriented dispositional and stressor-specific processes. A primary limitation of this study was the cross-sectional assessment of dispositional emotional tendencies, stressor-specific coping, and positive affect at baseline. Evidence suggests that positive affect and stressor-specific coping reciprocally enhance one another across time in a bidirectional manner(Fredrickson & Joiner, 2002; Moskowitz et al., 1996; Yamasaki et al., 2006). Therefore, repeated assessments of stressor-specific coping processes are an important recommendation for future research in order to examine the temporal unfolding of its relationship with positive affect. In light of this limitation, these results await replication.

Findings from the current study suggest that stressor-specific coping self-efficacy may play a role in the sustenance of positive affect in the context of chronic stress. More specifically, dispositional emotional acceptance and reflection were positively associated with baseline positive affect, which in turn was positively associated with coping self-efficacy. Both baseline positive affect and coping self-efficacy predicted greater positive affect one week later, which subsequently predicted greater positive affect ten weeks later. Taken together with findings from Study 1 that demonstrated that stressor-specific coping self-efficacy uniquely predicted better psychological adjustment over time across all four outcomes (i.e., depressive symptoms, intrusive thoughts, negative and positive affect), these results underline potential benefits associated with stressor-specific coping self-efficacy in young women coping with chronic financial stress and suggest that it may be a good target for intervention. Protocols that promote coping skills (Chesney et al., 2003; Keefe et al., 2004) and facilitate communication and garner support (Cleary & Stanton, 2015) have been shown to increase coping self-efficacy and may be well-suited for this population. Furthermore, given that coping self-efficacy is defined by an individual's beliefs about his or her capacity to cope with a stressor, it is possible the interventions that utilize cognitive restructuring techniques to promote balanced appraisals of threat and capacity to cope with threat, such as Cognitive Behavioral Therapy (Beck, 2011) ,

also may increase coping self-efficacy. Future research should investigate therapeutic approaches that harness the benefits of coping self-efficacy in young women coping with chronic financial stress.

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Table 1. Sample Characteristics (N = 136)

Age, mean (SD)	19.26	(2.82)	Loans, % (n)		
Body Mass Index, mean (SD)	22.53	(3.91)	Yes	61.0%	(83)
Years Residing in US, mean (SD)	18.32	(4.01)	No	36.8%	(50)
Ethnicity, % (n)			Missing	2.2%	(3)
Latina	66.9%	(91)	Amount/year, mean (SD), n = 71	9,068	(8,292)
Non-Latina White	33.1%	(45)	Scholarships/Grants, % (n)	23.10	(15)
Year at UCLA, % (n)			Yes	83.1%	(113)
First Year	50.7%	(69)	No	15.4%	(21)
Second Year	32.4%	(44)	Missing	1.5%	(2)
Third Year	8.8%	(12)	Amount/year, mean (SD), n = 94	14,679	(8,828)
Fourth Year	4.4%	(6)	Support from Parents/Adults, % (n)		
Other	.7%	(1)	Yes	66.2%	(90)
Missing	2.9%	(4)	No	32.4%	(44)
Household Income, % (n)			Missing	1.5%	(2)
Less than $20,000	23.5%	(32)	Amount/year, mean (SD), n = 57	6,231	(8,467)
$20,000 - $40,000	22.1%	(30)	Work Income, % (n)		
$40,000 - $60,000	16.2%	(22)	Yes	45.6%	(62)
$60,000 - $80,000	11.0%	(15)	No	52.2%	(71)
$80,000 - $100,000	6.6%	(9)	Missing	2.2%	(3)
$100,000 - $250,000	5.1%	(7)	Amount/month, mean (SD), n = 54	450	(305)
$250,000 - $500,000	1.5%	(2)	Difficulty Paying Bills, % (n)		
Over $500,000	.7%	(1)	No difficulty at all	6.6%	(9)
Missing	13.2%	(18)	Little difficulty	18.4%	(25)
BMI Classification, % (n)			Some difficulty	44.9%	(61)
Underweight, below 18.5	8.1%	(11)	Moderate difficulty	21.3%	(29)
Normal Weight, 18.5 - 24.9	62.5%	(85)	Great deal of difficulty	6.6%	(9)
Overweight, 25.0 - 29.9	11.8%	(16)	Missing	2.2%	(3)
Obese, 30.0 +	4.4%	(6)			
Missing	13.2%	(18)			

Relationship Status, % (n)			Money at the End of Month, % (n)		
Committed Relationship	37.5%	(51)	Some money left over	33.8%	(46)
Single	54.4%	(74)	Just enough to make ends meet	57.4%	(78)
Unsure	4.4%	(6)	Not enough to make ends meet	6.6%	(9)
Missing	3.7%	(5)	Missing	2.2%	(3)
Region of Birth			Lives with Parents/Family, % (n)		
US	89.7%	(122)	Yes	30.1%	(41)
Latin America	8.15	(11)	No	67.6%	(92)
Europe	2.2%	(3)	Missing	2.2%	(3)
Other	0%	(0)			
Missing	0%	(0)			
Mother's Country of Birth					
US	37.5%	(51)			
Latin America	56.6%	(77)			
Europe	5.1%	(7)			
Other	.7%	(1)			
Don't Know	0%	(0)			
Missing	0%	(0)			
Father's Country of Birth					
US	35.3%	(48)			
Latin America	56.6%	(77)			
Europe	3.7%	(5)			
Other	2.2%	(3)			
Don't Know	2.2%	(3)			
Missing	0%	(0)			

Table 2. Descriptive Statistics for Repeated Measure Outcomes

Scale	Time Point	n	M (SD)
One-Week Positive Affect (PANAS)	Baseline	119	28.35 (7.48)
	One Week	133	24.59 (7.96)
	Ten Week	60	26.80 (7.91)
Momentary Positive Affect (PANAS)	Baseline	136	27.24 (6.89)
Session 1	Disclosure	133	22.55 (7.33)
	Recovery	131	21.72 (7.82)
Momentary Positive Affect (PANAS)	Baseline	133	24.47 (8.88)
Session 2	Disclosure	133	20.98 (8.04)
	Recovery	133	20.64 (8.24)

Table 3. Descriptive Statistics for Dispositional and Stressor-Specific Individual Difference

Dispositional Measure	n	M (SD)
Positive Expressivity (BEQ)	136	5.45 (1.00)
Negative Expressivity (BEQ)	136	3.76 (1.09)
Affect Intensity (BEQ)	136	4.85 (1.16)
Rumination (RRQ)	136	3.69 (.67)
Reflection (RRQ)	136	3.24 (.79)
Emotional Acceptance (EA)	134	56.83 (19.43)
Stressor-specific Measure	**n**	**M (SD)**
Cognitive Reappraisal (ERQ)	136	5.12 (.95)
Emotional Suppression (ERQ)	136	4.08 (1.15)
Coping Self-Efficacy (CSE)	135	154.88 (45.55)
Problem-Focused Coping (COPE)	134	3.09 (.61)
Emo. Approach Coping (COPE)	134	2.44 (.69)
Avoidance Coping (COPE)	134	1.97 (.47)

Table 4. Zero-order Correlations between Dispositional Individual Difference Factors

	Positive Expressivity	Negative Expressivity	Affect Intensity	Rumination	Reflection	Emotional Acceptance
Positive Expressivity	---	.42***	.40***	-.14	.18*	.50***
Negative Expressivity		---	.38***	.02	.01	.16
Affect Intensity			---	.16	.14	.10
Rumination				---	-.14	-.35***
Reflection					---	.48***
Emotional Acceptance						---

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

Table 5. Zero-order Correlations between Stressor-specific Individual Difference Factors

	Cognitive Reappraisal	Emotional Suppression	Coping Self-Efficacy	Emo Approach Coping	Avoidance Coping	Prob-Focused Coping
Cognitive Reappraisal	---	.07	.60***	.29**	.18*	.18*
Emotional Suppression		---	-.19*	-.36**	.24**	-.15
Coping Self-Efficacy			---	.45***	-.14	.43***
Emo Approach Coping				---	.03	.42***
Avoidance Coping					---	-.15
Prob-Focused Coping						---

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

Table 6. Zero-order Correlations between Positive Affect at Baseline, One- and Ten-Weeks and Dispositional Attributes and Stressor-specific Coping Processes

	Positive Affect		
	Baseline	One-Week	Ten-Weeks
Dispositional Attributes			
Positive Expressivity	.36***	.29**	.15
Negative Expressivity	.09	.11	.09
Affect Intensity	.23*	.14	.11
Rumination	-.01	-.12	.05
Reflection	.39***	.23**	.25
Emotional Acceptance	.34***	.35***	.30*
Stressor-specific Processes			
Coping Self-Efficacy	.34**	.39***	.35**
Cognitive Reappraisal	.35**	.20*	.49***
Problem-Focused Coping	.15	.24**	.26*
Emotional Approach Coping	.34***	.28**	.27*
Avoidance Coping	.12	.01	.08
Emotional Suppression	.05	-.13	.03

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

Table 7. Descriptive Statistics for Markers at Psychological Adjustment at One Week

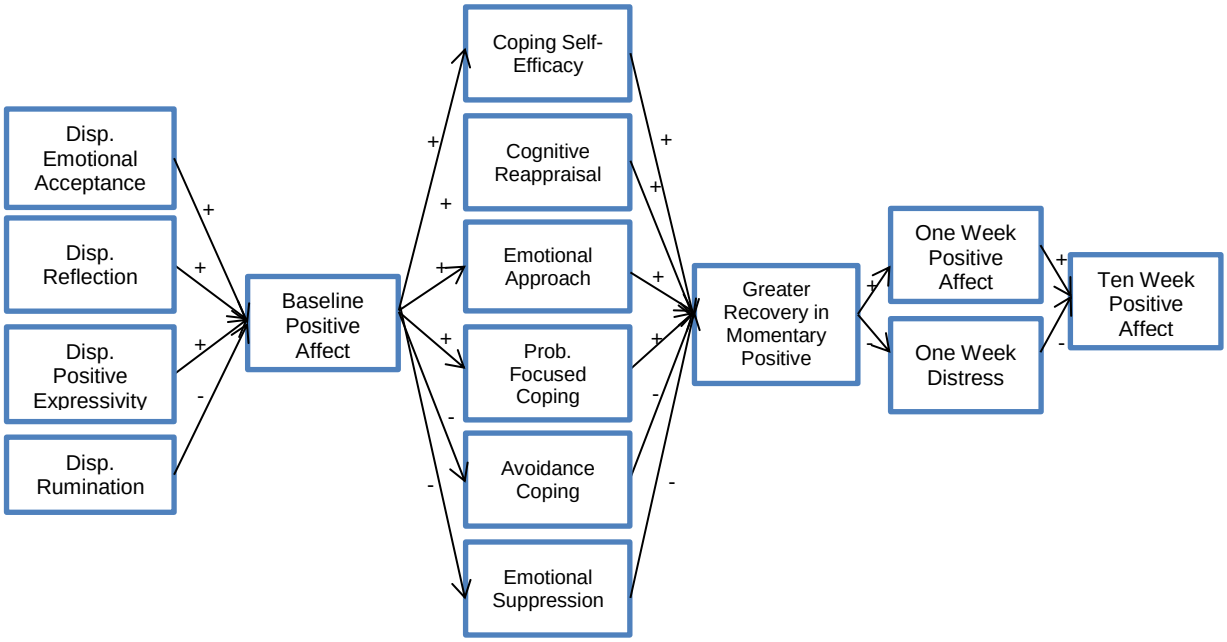
Scale	Time Point	n	M (SD)
Depressive Symptoms (CESD)	One Week	133	17.61 (10.28)
Intrusive Thoughts (IES)	One Week	132	7.45 (4.99
Negative Affect (PANAS)	One Week	133	16.14 (5.45)

Table 8. Zero-order Correlations between Markers of Psychological Adjustment at the One Week Follow-Up Assessment

	Depressive Symp.	Intrusive Thoughts	Negative Affect	Positive Affect
Depressive Symp.	---			
Intrusive Thoughts	.49***	---		
Negative Affect	.67***	.39***	---	
Positive Affect	-.41***	.03	-.15	---

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

Figure 1. Model depicting hypothesized relationships between dispositional and stressor-specific factors and positive affect across time.[6] Positive associations indicated by (+) and negative associations indicated by (-). Dispositional affect intensity and negative expressivity not shown as these associations are exploratory.



[6] For clarity, not all possible associations are depicted. Covariances between dispositional and stressor-specific factors and associations between positive affect assessments across time would also be incorporated into model as appropriate.

Figure 3. Reactivity and recovery in momentary positive affect at baseline, immediately after disclosure, and after recovery in Session 1 (above) and Session 2 (below). *p < .05. **p < .01. ***p < .001.

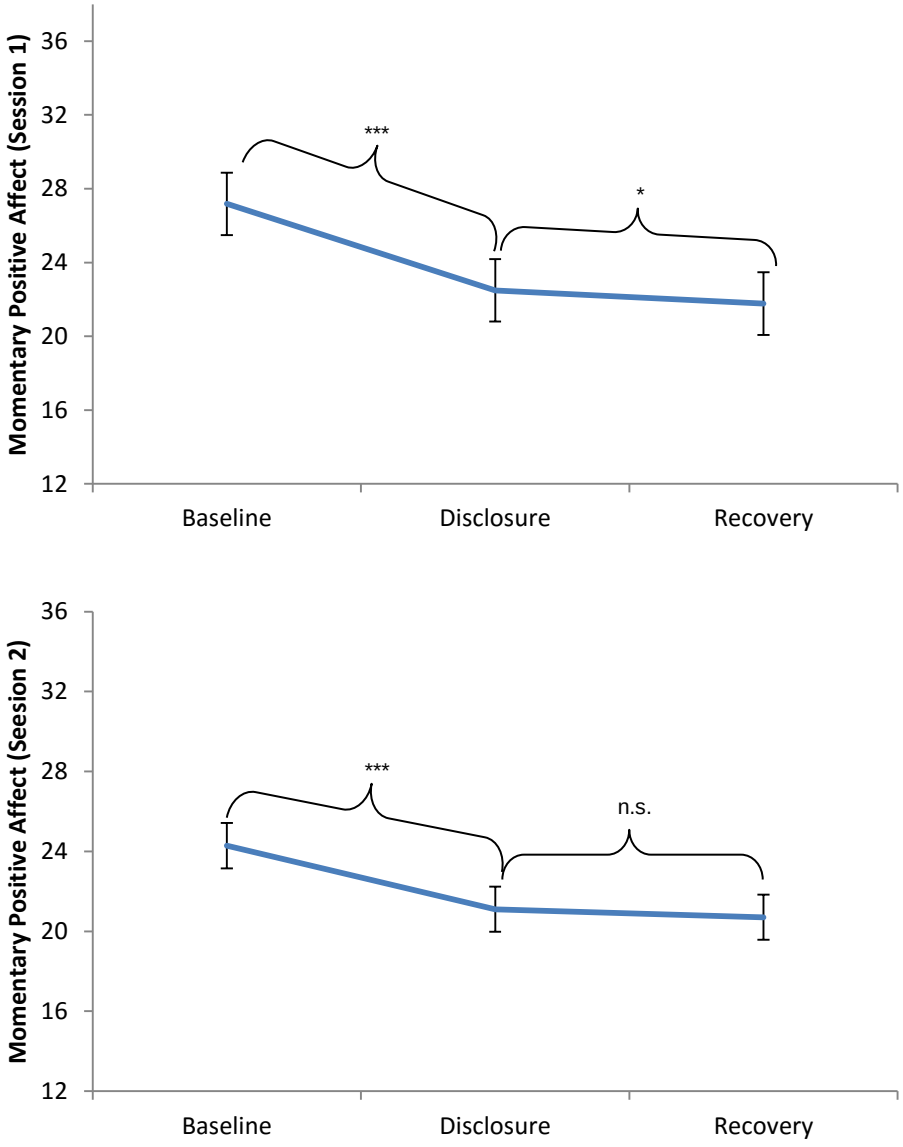
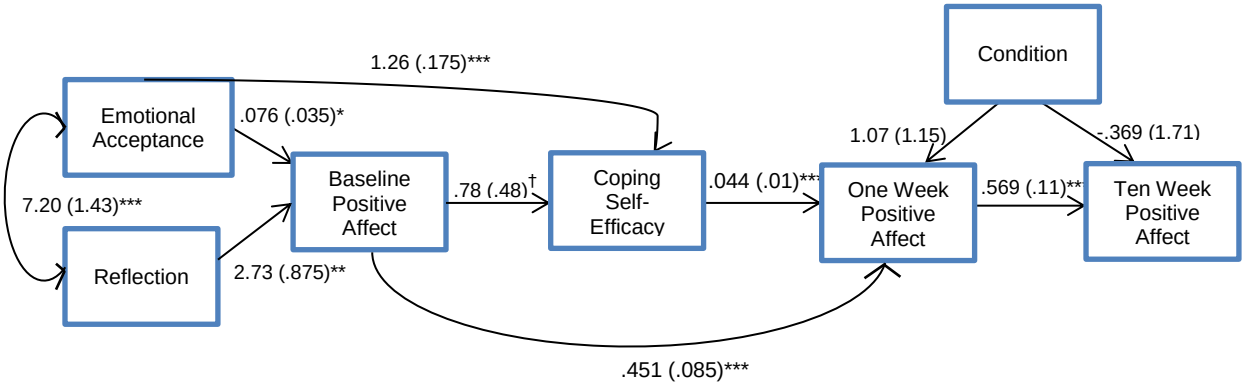


Figure 4. Final path model (N = 136). Unstandardized path coefficients with corresponding standard errors are shown. $^{\dagger}p$ <.10, *p < .05, **p < .01, ***p < .001



General Discussion

The aim of this dissertation was to examine emotional expression and positive affect in a socioeconomically disadvantaged sample of Latina and non-Latina White female undergraduate students at UCLA experiencing chronic financial stress. Women were randomly assigned to discuss the emotions regarding their financial stress (induced emotional expression) or the facts regarding their finances (control) during two laboratory sessions two to five days apart. In order to assess the influence of dispositional emotional tendencies, stressor-specific coping, and cultural factors on outcomes of induced emotional expression, the first study examined the main and moderated effects of condition on depressive symptoms, intrusive thoughts, negative affect, and positive affect at baseline, one- and ten-week follow-up assessments. Utilizing the repeated measurement of positive affect from this randomized, controlled experiment, the second study tested a unifying model in order to elucidate possible pathways by which positive affect is sustained over time in the context of chronic stress through its relationship with dispositional emotional tendencies and stressor-specific coping. Across Study 1 and 2, an overarching goal was to characterize the interplay of both approach- and avoidance-oriented processes with induced emotional expression and positive affect. Dispositional emotional acceptance, dispositional reflection, dispositional emotional expressivity, stressor-specific cognitive reappraisal, emotional approach coping, and problem-focused coping were examined as approach-oriented factors. Dispositional rumination, stressor-specific emotional suppression, and stressor-specific avoidance were examined as avoidance-oriented processes.

Findings from Study 1 demonstrated that approach-oriented processes generally predicted better psychological adjustment over time whereas avoidance-oriented processes predicted greater distress over time. Findings are consistent with evidence that approach-oriented dispositional tendencies and coping strategies are typically associated with better psychological adjustment than avoidance-oriented tendencies and strategies (Carver & White, 1994; Johnson, Turner, & Iwata, 2003; Jorm et al., 1998; Roth & Cohen, 1986; Suls & Fletcher,

1985; Taylor & Stanton, 2007). Furthermore, stressor-specific coping self-efficacy, or women's perceived confidence in their capacity to cope with financial stress, was the only factor that predicted better psychological adjustment across all four outcomes (i.e., greater positive affect and lower depressive symptoms, intrusive thoughts, negative affect).

Contrary to hypotheses, no main effect of experimental condition was observed in Study 1, perhaps due to the use of an active control condition in which participants disclosed factual information regarding their chronic financial stress. Unlike most previous studies that have employed a control condition in which participants disclose around a neutral event (e.g., their plans for the day; Frattaroli, 2006; Smyth, 1998), this active control condition accounts for stressor exposure. Given that stressor exposure is a hypothesized mechanism of induced emotional expression (Sloan & Marx, 2004; Sloan, Marx, & Epstein, 2005), inclusion of this active control might have contributed to the absence of a main effect of condition. A randomized experiment that includes both types of control conditions (i.e., with and without stressor exposure) in addition to induced emotional expression would be required in order to disentangle the effects of emotional expression and non-emotional stressor exposure.

Dispositional emotional tendencies and stressor-specific processes moderated the effects of induced emotional expression. Induced emotional expression predicted lower distress across time than the control condition at high levels of avoidance processes (i.e., dispositional rumination and stressor-specific avoidance coping). Induced expression also predicted greater positive affect across time than the control condition at low, mean, and high levels of stressor-specific coping self-efficacy and approach processes (i.e., dispositional emotional acceptance and positive expressivity), with the magnitude of this effect increasing at higher levels of these processes. These findings suggest that induced emotional expression both counteracts engagement in avoidance-oriented processes to reduce distress and capitalizes on coping self-efficacy and approach-oriented processes to increase positive affect. Future research should investigate the potential benefits of assessing dispositional and stressor-specific factors in order

to target at-risk individuals and capitalize on protective attributes when fostering emotional expression in preventive or therapeutic approaches.

Analyses from Study 2 demonstrated that dispositional emotional acceptance and reflection were positively associated with baseline positive affect, which in turn was positively associated with stressor-specific coping self-efficacy. Both baseline positive affect and stressor-specific coping self-efficacy predicted greater positive affect at one week, which subsequently predicted greater positive affect at ten weeks. Contrary to hypotheses, stressor-specific coping strategies, including cognitive reappraisal, problem-focused coping, and emotional approach coping, did not account for the association between positive affect at baseline and positive affect at one- and ten-weeks. These findings suggest that coping self-efficacy, not engagement with specific approach-oriented strategies, may be a vehicle through which positive affect reciprocally sustains itself over. The Broaden-and-Build theory posits that positive affect allows individuals to build psychosocial resources over time, including sustained or increased positive affect, through its association with more flexible thinking, expanded attention, facilitated idea generation, and a broadened range of behavioral responses (Fredrickson, 2001; Fredrickson & Joiner, 2002). Results from Study 2 suggest that the cognitive flexibility associated with positive affect may facilitate or promote an individual's beliefs of his/her capacity to cope with stress (i.e., coping self-efficacy), which may in turn sustain positive affect in the context of stress.

Approach-oriented coping strategies predicted better psychological adjustment in Study 1, and evidence suggests that coping self-efficacy and approach-oriented coping strategies are related constructs (Chesney, Chambers, Taylor, Johnson, & Folkman, 2003; Keefe et al., 2004). Therefore, future research is needed characterize the unique and shared effects of coping self-efficacy and engagement in approach-oriented coping strategies in the context of chronic stress. In particular, the assessment of multiple markers of positive psychological wellbeing (e.g., satisfaction with life, eudaimonic wellbeing) is recommended given the unique association of approach-oriented processes with positive affect in the current research and evidence of a more

consistent relationship between positive affect and greater use of approach-oriented coping strategies than positive affect and lower use of avoidance-oriented strategies (Ben-Zur, 2002, 2009; Folkman & Moskowitz, 2000; Moskowitz, Folkman, Collette, & Vittinghoff, 1996; Swart, Kortekaas, & Aleman, 2009; Tugade & Fredrickson, 2004).

This dissertation has several strengths, including its longitudinal design, inclusion of a selection of both approach- and avoidance-oriented dispositional and stressor-specific processes, and sample of socioeconomically disadvantaged Latina and non-Latina white women experiencing chronic financial stress. Most women reported a combined household income of $60,000 or less and at least some difficulty paying bills. Given that 42% of undergraduate students at UCLA belong to high-income families with combined household incomes at or greater than $106,000 (compared to 7% of the present sample who reported a combined household income at or greater than $100,000; University of California, 2015), women in this study represent a socioeconomically disadvantaged sector of the undergraduate population at UCLA. Essential expenses, including textbooks, tuition, and housing, were ranked by women as the top three most stress-inducing expenses. Women reported elevated depressive symptoms at or above the clinically suggestive cutoff (Radloff, 1977) and positive affect below undergraduate norms (Watson & Clark, 1999), underlining the need to address distress and support needs in this population. Informed by preliminary analyses of the current study, our lab is conducting a randomized, controlled experiment to examine the effects of induced emotional expression (writing about stressor-specific thoughts and feelings) and self-affirmation (writing about most important value) in UCLA students coping with chronic financial stress (Bauer & Stanton, 2016). This research extends the current findings by including both female and male participants of diverse races/ethnicities, adding a condition that might better promote self-efficacy, examining mediators and moderators of condition effects. Results promise to elucidate mechanisms of change as well as further the understanding of for whom and under what conditions induced emotional expression confers maximum benefit.

Consistent with national data documenting disparities in wealth distribution between Latinos and non-Latino whites (Stepler & Brown, 2015), Latinas reported disproportionately lower combined household incomes and were more likely to receive scholarships and federal grants than non-Latina white women in the present sample, likely due to need-based financial aid resources. Latinas also reported lower positive affect across time than non-Latina white women. Despite observed differences between Latina and non-Latina white women, ethnicity did not moderate the main effects of condition dispositional emotional tendencies, or stressor-specific coping in Study 1 or alter the pattern of results observed in Study 2. However, given the higher proportion of Latinas (67%, *n* = 91) than non-Latina white women (33%, *n* = 45) in the current study, statistical power to detect differential effects between ethnic groups was limited. Future research should continue to investigate psychological processes and outcomes in minority women in higher education.

A primary limitation was attrition at the optional ten-week follow-up assessment, which was addressed through multilevel modeling analyses in Study 1 and use of Full Information Maximum Likelihood (FIML) estimation in Study 2. Repeated assessment of stressor-specific coping processes, including coping self-efficacy and approach-oriented coping strategies, is also recommended so that change across time can be examined in future research. Repeated assessments of both coping self-efficacy and approach-oriented coping strategies would allow for both mediational analyses and the interrogation of lagged effects in order to determine whether increased use of approach-oriented strategies precedes increases in coping self-efficacy and increased coping self-efficacy precedes increases in use of approach-oriented strategies. Furthermore, evidence suggests that positive affect and stressor-specific coping reciprocally enhance one another across time (Fredrickson & Joiner, 2002; Moskowitz et al., 1996; Yamasaki, Sakai, & Uchida, 2006), which could not be modeled in this research. Therefore, repeated assessments of stressor-specific coping processes are an important recommendation for future research.

Results from Study 1 demonstrated that coping self-efficacy uniquely predicted better psychological adjustment over time across all four outcomes (i.e., greater positive affect and lower depressive symptoms, intrusive thoughts, negative affect), and results from Study 2 supported the role of coping self-efficacy in the sustenance of positive affect over time in the context of chronic stress. Taken together, these findings underline potential benefits associated with stressor-specific coping self-efficacy in young women coping with chronic financial stress and suggest that it is a promising target for intervention. Therapeutic protocols that promote coping skills (Chesney et al., 2003; Keefe et al., 2004) and facilitate communication and garner support (Cleary & Stanton, 2015) have been shown to increase coping self-efficacy and may be well-suited for this population. Furthermore, given that coping self-efficacy is defined by an individual's beliefs about his or her capacity to cope with a stressor, it is possible that cognitive restructuring techniques to promote balanced appraisals of threat and capacity to cope with threat (e.g., Ashford, Edmunds, & French, 2010), such as Cognitive Behavioral Therapy (Beck, 2011), also might increase coping self-efficacy. Findings from Study 1 also suggest that promoting approach-oriented processes, such as emotional acceptance, and decreasing rumination, avoidance, and emotional suppression through empirically-supported therapies that target these processes (e.g., Acceptance and Commitment Therapy; Hayes, Luoma, Bond, Masuda, & Lillis, 2006) may be beneficial for young women coping with chronic financial stress. Future research should investigate therapeutic approaches that harness the benefits of coping self-efficacy and approach-oriented processes in young women coping with chronic financial stress.

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