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Navigating the bridge: Bicultural stress, perceived bicultural competence, and coping flexibility among Latina/os

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**Navigating the bridge: Bicultural stress, perceived bicultural competence,
and coping flexibility among Latina/os**

by

Raquel Botello

A dissertation submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

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ABSTRACT

Latina/os in the U.S. often have an active identity in both their culture and the mainstream culture. Bicultural stress is the strain that generates from navigating two cultures and the differences that may arise between them (Chiang, 2007). It is important to understand the implications bicultural stress on Latinos and the mechanism that may have a role in its relationship with depression. Perceived bicultural competence is the notion of being able to navigate two cultures fluidly without a feeling sacrificing a sense of self (LaFromboise, Coleman, & Gerton, 1993). Coping flexibility is one's ability to change and modify coping behaviors depending on the nature of the stressful situation (Cheng, Lau, & Chen, 2014). In this study, a moderated mediation model was examined where perceived bicultural competence mediated the relation with bicultural stress and depression. Additionally, to further explore contextual coping, coping flexibility is posed as a moderating variable in the relationship between (a) bicultural stress and depression (b) perceived bicultural competence and depression (c) bicultural stress and perceived bicultural competence. Rationale for hypotheses and plans for this study are discussed. Results supported the hypothesized mediation role of perceived bicultural competence to the relationship of bicultural stress and depression. Coping flexibility moderated the mediated relationship of perceived bicultural competence and bicultural stress to depression. Moderation was not observed between bicultural stress and depression and between bicultural stress and perceived bicultural competences. Results, implications to counseling, research limitations and future research directions were discussed.

CHAPTER 1: INTRODUCTION

As the U.S. becomes more diversified, researchers have found that ethnic minorities in the U.S. experience stress associated to having dual or multi-cultural identities (i.e., Ethnic and Mainstream) (Benet-Martínez, Leu, Lee, & Morris, 2002; Chiang, 2007; Nguyen & Benet-Martinez, 2007). Bicultural stress is the strain produced from maintaining and navigating two cultures simultaneously (Chiang, 2007). As the Latino population rapidly grows to eventually hold majority group status, individuals in these immense Latino/as waves are likely to encounter bicultural stress. Latina/os often navigate dualistic cultural experiences from being part of both the Latino culture and Mainstream society (Ennis, Rios-Vargas, & Albert, 2011). The integration of these cultures has been found to be a core component of Latina/o development (Harwood, Leyendecek, Carlson, Asencio, & Miller, 2002; LaFromboise, Coleman, & Gerton, 1993). Both positive and negative outcomes result from navigating two cultures in a fluid manner (Smokoski & Bacallao, 2011). Yet, our understanding of the struggles and outcomes regarding bicultural stress in the Latina/o population is poorly understood. As clinicians, it is important to know how bicultural stress psychologically impacts Latina/os. By learning about the implications and effects of bicultural stress we could identify how to remediate or strengthen the bicultural process experienced by the Latina/o population.

Bicultural stress is generated from the pressure of juggling two distinct cultures fluidly, such as the mainstream culture and Latina/o heritage (Chiang, 2007). Latina/os, like other ethnic minorities, need to navigate both cultures in a manner that is compatible and adaptive. Having to learn both social structures and understand the

relationship between them generates an extra strain (e.g., bicultural stress) that is not experienced by mono-cultural individuals. Aside from the goal of being able to adapt and function in both social structures, Latina/os also struggle with negotiating the differences and generating their own beliefs and attitudes. This internal negotiation also contributes to the bicultural stress experienced by Latina/os (Chiang, 2007). Furthermore, bicultural stress is also generated by concerns of belonging and acceptance of others because of the complexity of their identity and their feelings of not fully “belonging” to one culture context. These concerns are generated in both cultural contexts (i.e., Latino cultural and mainstream culture) and dually contribute to bicultural stress.

Bicultural Stress and Psychological Outcomes

Theoretically, it would seem that having the ability to live in two cultures may feel enhancing and liberating. Although research supports that there are many positive aspects of holding two cultures, this experience may also cause emotional distress (La Fromboise, Coleman, & Gerton, 1996). This is largely due to the fact that integrating two cultures into one’s life can prove to be a difficult process as a result of cultural differences. Differences between Latino cultures and mainstream culture vary from mere language usage and common behavioral differences to deeply ingrained cultural values (Schwartz & Unger, 2010). Understanding, navigating and alleviating these differences ultimately contribute to bicultural stress (Chiang, 2007). Because of the emotional strains generated, it is expected that bicultural stress is positively related to depression in Latina/os (see path a in Figure 1). For bicultural individuals, including Latino/as, these interpersonal strains can prime feeling of rejections, not fitting in, and concerns with negotiating their

cultural stance (Chiang, 2007). For example, Torres (2010) found that Latina/os may experience interpersonal problems when integrated in both cultures (i.e., Latino and Mainstream). Interpersonal concerns generally can lead to depressive symptoms and lowered self-esteem (Leary, Tambor, Terdal, & Downs, 1995; Torres, 2010). In a study with Latina/o bicultural adolescents, experiences of bicultural stressors significantly increased depression symptoms (Romero & Roberts, 2003; Romero, Martinez, & Carbajal, 2007).

It seems that bicultural Latina/os can get the best of both worlds but also suffer from the pitfalls of living in both worlds. Feeling pressures and stressors from both Latino and Mainstream cultural situations/groups can increase bicultural stress and be related to depression and psychological distress (Rodriguez et al., 2004; Torres, 2010). Bicultural stress can metaphorically feel like “being stuck in between a rock and a hard place.” Latina/o biculturals struggle with being a minority in a European dominated society and being “Americanized” within Latino cultural contexts (Ojeda, Navarro, Rosales-Meza, & Arbona, 2012). Specifically, on the one hand, Latina/os can be faced with the negative social caveats of being an ethnic minority. For example, holding a Latino background can generate more experiences of racial prejudice found in mainstream society (Niemann, Romero, Arredondo, & Rodriguez, 1999). This can include but is not limited to stereotype threats, discrimination experiences and white marginalization. These stressors of being an ethnic minority in the mainstream culture often contribute to psychological distress (Castillo, Conoley, & Brossart, 2004; Wei et al., 2010).

On the other hand, Latino in-group stressors can arise from intergenerational conflict, intracultural marginalization and pressures to fit within a cultural context (Carrera & Wei, 2014; Castillo, Conoley, Bassart, & Quiros, 2007). Additionally, internalizing the

mainstream cultural values (i.e., acculturating to mainstream) can increase familial distress due to the generational acculturation gap and conflict of values (Carrera & Wei, 2014; Cano Castillo, Castro, de Dios, & Roncancio, 2013). Feelings of being unfit or stressed with a cultural group can occur with other Latina/o counterparts including family members (Cano et al., 2013). These experiences have also been linked to psychological distress among Latina/os (Castillo, Conoley, & Brossar, 2004; Castillo et al., 2008). In short, the above empirical findings provide initial support for expecting bicultural stress to negatively impact Latina/os psychological health (i.e., increase anxiety and depression).

Although understanding of some aspects of bicultural stress in Latina/os has been addressed in the literature, findings pose some limitations. Specifically, information attained from these studies has been limited to social context. Bicultural stress is interpersonally grounded but also includes the inner psychological struggle derived from navigation of two cultures (Chiang, 2007). In the literature, bicultural stress has been mainly measured solely based on specific situations (i.e., translating for parents or being stereotyped) and/or by utilizing other measures conceptually associated to bicultural stress (Romero & Roberts, 2003; Torres & Rollock, 2004). For example, some studies on acculturative stress have interpreted their findings as stress associated with bicultural concerns (Torres & Rollock, 2004; Vega-Vargas, 2005). However, bicultural stress encompasses the subjective strain of having to navigate back and forth from cultural contexts, which is an aspect not included in acculturative stress constructs (Chiang, 2007). Thus, bicultural stress holds its own separate etiology and likely contributes to psychological concerns among Latina/o individuals. Researchers have not directly measured reported stress generated from constant alternating and internally negotiating (i.e., between cultural aspects) on a daily basis. Metaphorically,

research has not addressed the stress associated with continuously *crossing the bridge* between the Latino and mainstream cultures and has poorly captured the stress of holding two cultures fluidly. However, from the above empirical studies, constructs relevant to bicultural stress have been evidenced to associate with psychological outcomes (e.g., Castillo et al., 2004; Carrera & Wei, 2014). Thus, the first goal of this study was to address the relationship between bicultural stress and depression, which is expected to be positive. That is, Latino/as with higher degrees of bicultural stress would experience more depression (see path a in Figure 1).

Perceived Perceived bicultural competence as a Mediator

LaFromboise et al. (1993) postulated that, in effect, people could navigate two cultures fluidly if they exhibited competence in both cultures. They addressed that in addition to being able to productively function in two cultures without sacrificing one another; perceived bicultural competence could also be an indicator of psychological well-being. Their theory of biculturalism laid out a set of domains that generated the competency of functioning in two cultures (LaFromboise et al., 1993). However, the premise of their theoretical approach was that bicultural individuals, such as Latina/os, would have the tools to be competent. Given their theoretical framework, those without perceived bicultural competence would suffer from depression. That is when Latina/os do not believe they could function and be part of both cultures effectively or do not have the tools to do so (i.e., lack of mainstream role repertoire or deficiency in understanding cultural values) depression symptoms can emerge. This notion has been empirically supported by David et al., (2009), who found that minority students (including Latina/os) with less perceived bicultural competence reported greater depression outcomes. Similarly, perceived bicultural

competence was related to depression in ethnic minority college students, including Latina/os (Wei et al., 2010). Thus, based on the theory of biculturalism and empirical studies, it was hypothesized that perceived bicultural competence plays an important role in the psychological health (i.e., depression) of minority bicultural individuals such as Latina/os (see path b, in Figure 1).

In a similar scope, it was predicted that bicultural stress was associated with perceived bicultural competence directly. When bicultural Latina/os struggled with navigating both cultural contexts (i.e., bicultural stress), they would have difficulty feeling biculturally competent (path c in Figure 1). For example, Latina/os students may initially have a clear sense of perceived bicultural competence during specific times of their life such as prior to entering college. However, upon becoming a college student they may find the university environment or other settings as less receptive to cultural diversity than what they grew up with and thus may question their sense of perceived bicultural competence. Castillo et al. (2006) found that university environment may often pressure bicultural Latina/os to assimilate to cultural context. Likewise, they can experience distress associated from failing familial expectations as a result of being away in college (Castillo et al., 2008). This may challenge their assumptions that they could be a “typical” college student without letting go of their ethnic heritage, thus, decreasing their beliefs that they could fully embrace both cultures simultaneously.

Given the relationship between bicultural stress and perceived bicultural competence (path c in Figure 1) in conjunction with the relationship with perceived bicultural competence and depression (path b in Figure 1), I hypothesized that perceived bicultural competence was a key mediator in the relationship between bicultural stress and depression. The rationale was

that having the bicultural stress would prompt Latina/o bicultural individuals to question whether they could hold such bicultural values and navigate expanded cultural roles. This questioning would ultimately be associated with depression. Empirical studies have provided indirect evidence for this hypothesis. For instance, Carrera and Wei (2014) found that bicultural self-efficacy mediated the role between acculturative family distancing (i.e., feelings of family distance resulting from acculturation gaps) and depression among Latina/o college students.

According to Baron and Kenny (1986), a “mediator explains external physical events take on internal psychological significance” (p.176). Because bicultural stress is often a product of dynamic experiences, it is likely to promote doubt in Latino/as sense of being competent in those cultural domains. For instance, they may be blamed for “not being Latina/o enough or feel out casted in mainstream events. The rationale is that like most competencies, perceived bicultural competence is likely acquired with experience, time and socialization. It is fostered and altered depending on the experiences of living in a bicultural world. It was expected that Latina/o individual’s bicultural self-efficacy would serve as an important mediating role to understand how bicultural stress is positively associated with depression. I hypothesized that Latina/os with higher bicultural stress would report lower perceived bicultural competence, which in turn would associate with higher depression. That is, bicultural stress challenged the sense of perceived bicultural competence that Latina/os hold, which then associated with depression.

Coping Flexibility as a Moderator

Aside from the importance of identifying the process of how bicultural stress is related to negative psychological outcomes (i.e., mediation), it is also imperative to identify a

potential moderating variables which could alleviate this mediation relationship. Coping flexibility was hypothesized to play a buffer role to lessen the strength for the following associations (a) between bicultural stress and depression (see path d) and (b) between perceived bicultural competence and depression (see path e) as well as (c) to enhance the association between bicultural stress and perceived bicultural competence (see path f, in Figure 1). Coping flexibility refers to one's ability to change and modify coping behaviors depending on the nature of the stressful stimuli (Cheng, Lau, & Chen, 2014). Utilizing coping flexibility has been negatively associated with depression, anxiety, and distress (Kato, 2012). Coping flexibility was hypothesized to be important for bicultural individuals because it can reflect their flexible ability to cope with and reconcile bicultural stress as they try to function in two different cultural norms (Markus & Kitayama, 1991). Indeed, a recent meta-analysis found that coping flexibility was particularly protective for individuals in the collectivistic culture (e.g., Latino culture; Cheng et al., 2014). Therefore, coping flexibility might have served as a moderator for the mediation effect and the direct effect in the above mediation model (see paths d, e, and f in Figure 1).

In a series of moderation hypothesis, it was first expected that coping flexibility was a moderator for the association between bicultural stress and depression (i.e., path d in Figure 1). For Latino/as with lower coping flexibility, it was expected that the positive association between bicultural stress and depression would be significant (see the solid line in Figure 2). The rationale was that if Latino/as lack of coping flexibility, they may not have taken benefits from having several alternative coping tools in hand to alleviate the situations generating bicultural stress. As a result, they may not be able to have the resource to regulate their bicultural stress to weaken the positive relationship on depression. Conversely, for

Latino/as with higher coping flexibility, it was expected that the positive association between bicultural stress and depression would be small or weak (see the dashed line in Figure 2). The rationale is that Latino/as who could flexibly switch coping tools would be able to meet the different demands from bicultural stress. If one coping strategy was not working well, they can flexibly switch to another coping strategy to match the specific needs in bicultural stress. Therefore, it was expected to alleviate bicultural stress situations. Empirically, a relevant construct, cognitive flexibility, has been found to moderate the relations between several contextual stressors and psychological outcomes. For example, cognitive flexibility buffered the link between general negative life events and depressive symptoms (Fresco, Rytwinski, & Craighead, 2007), the links between anti-bisexual prejudice and psychological well-being among bisexual individuals (Brewster, Moradi, DeBlaere, & Velez, 2013), or the link between parent-child gap and dating and marriage conflict among Korean Americans (Ahn, Kim, & Park, 2009). Based on the conceptual reasons and relevant empirical support, it was reasonably hypothesized that coping flexibility moderated the link between bicultural stress and depression (see path d Figure 1).

Second, it is expected that coping flexibility would also moderate the relationship between perceived bicultural competence and depression (see path e in Figure 1). Latino/as with lower coping flexibility would be expected to remain at a strong level of depression even if their perceived bicultural competence increased (see the solid line in Figure 3). The reason is that they were not likely to take advantages from flexibly switching their coping tools, but rather favored static coping mechanisms. Conversely, for Latina/os with higher coping flexibility, relationship between perceived bicultural competence and depression would be negative (see the dashed line in Figure 3). Those with higher coping flexibility

would have lower level of depression as perceived bicultural competence increases. The reason is that having coping flexibility could be an added resilience tool to combine with perceived bicultural competence to decrease depression. Thus, the impact of perceived bicultural competence on depression would partly depend on coping flexibility levels. Depression would be significantly decreased when Latina/os exhibit high coping flexibility but not for those with lower coping flexibility (see Figure 3). Research findings have indirectly supported this moderation relationship. Empirically, in a study with bicultural Mexican American college student flexibility in their roles across cultural situations was crucial for their sense of self and psychological stance (Olivarri, 2013).

Thirdly, in a similar light, coping flexibility would moderate the association between bicultural stress and perceived bicultural competence (see path f in Figure 1). Specifically, for those with lower coping flexibility, it would be expected that the association between bicultural stress and perceived bicultural competence would be significantly negative (see the solid line in Figure 4). The reason is that without having alternative coping tools in hand to flexibly tailor their tools to deal with stressors, Latino/a students would be limited to build a sense of perceived bicultural competence in the face of bicultural stress. Empirically, Aldridge and Roesch (2008) found that minority students who utilizing a more generic method of coping (i.e., having fewer various methods of coping) reported a poor adjustment. Conversely, Latino/as with high coping flexibility would be expected to still maintain a strong sense of perceived bicultural competence regardless their bicultural stress levels (see the dashed line in Figure 4). The reason is that Latina/os with higher coping flexibility could have added strength to maintain their sense of perceived bicultural competence by flexibly implementing various coping methods in the face of bicultural stress. Empirically, Harrison,

Wilson, Pine, and Chan (1990) indicated that increased cognitive creativity or flexibility is one of the benefits experienced by children who grow up in ethnic minority families in the United States. This is because they learned to negotiate the demands of the two cultures. In a recent qualitative study on Mexican American bicultural college students, flexibility in coping was found to be crucial for navigating their bicultural roles and stressors (Olivarri, 2013). From the above reasons and empirical support, it is hypothesized that coping flexibility would moderate the association between bicultural stress and perceived bicultural competence (see Figure 4).

Overview of Study

In conclusion, the primary purpose of this study was to examine the moderated mediation effects for the associations between bicultural stress and depression Latina/os. First, it was hypothesized that bicultural self-efficacy mediated the relationship between bicultural stress and depression. Second, it is hypothesized that coping flexibility would moderate direct effect and indirect effect in the mediation model, (a) the link between bicultural stress and depression, (b) the link between perceived bicultural competence and depression, and (c) the link between bicultural stress and perceived bicultural competence.

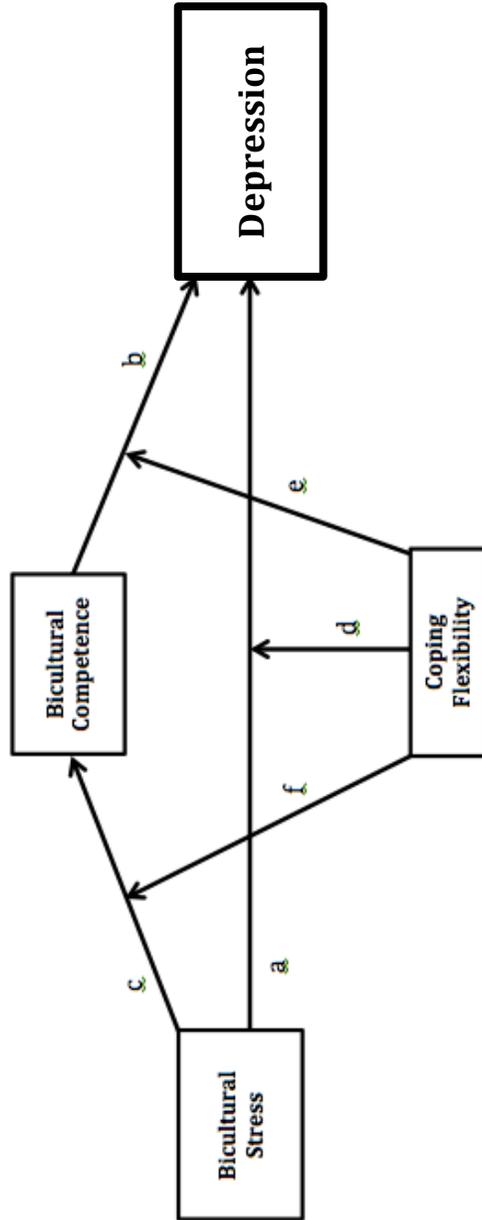


Figure 1. The Hypothesized Conceptual Model

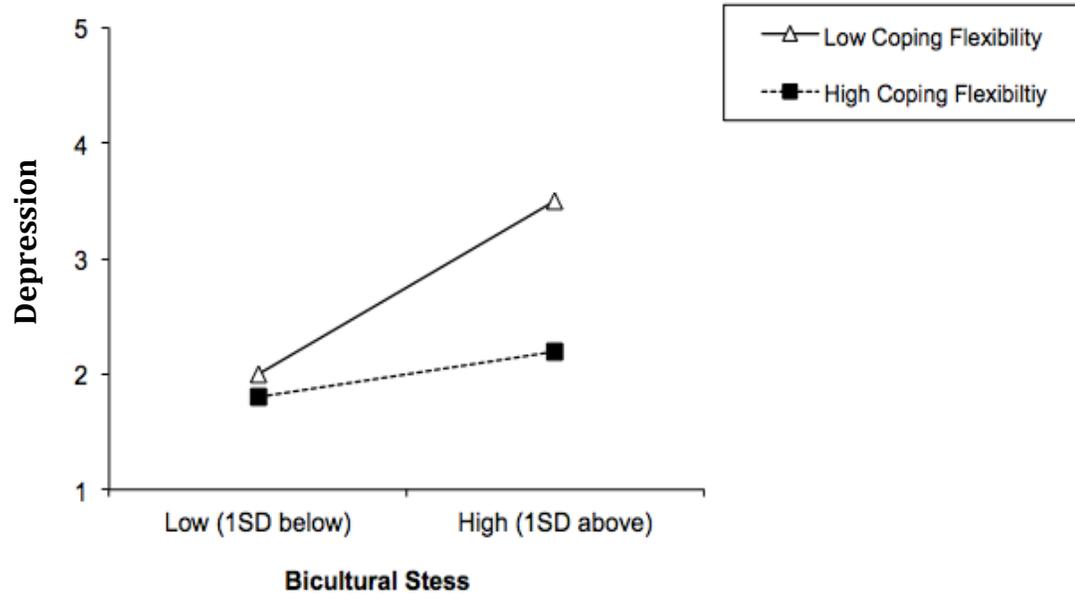


Figure 2. The Hypothesized Moderation Model: Coping Flexibility Moderates the Association between Bicultural Stress and Depression

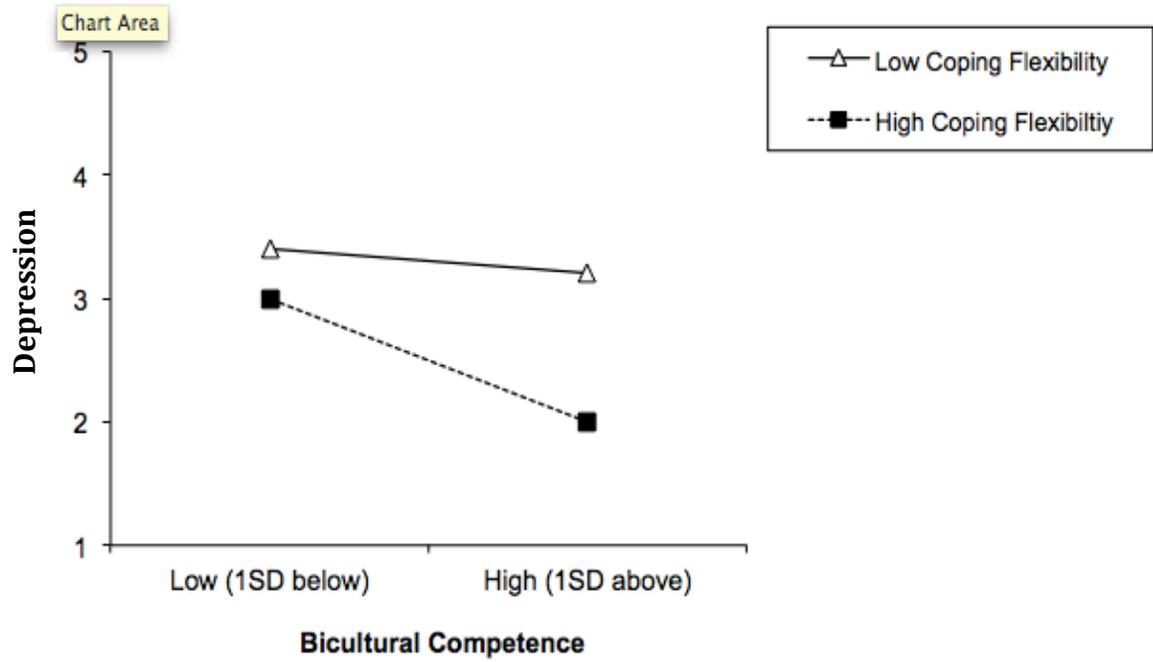


Figure 3. The Hypothesized Moderation Model: Coping Flexibility Moderates the Association between Perceived bicultural competence and Depression

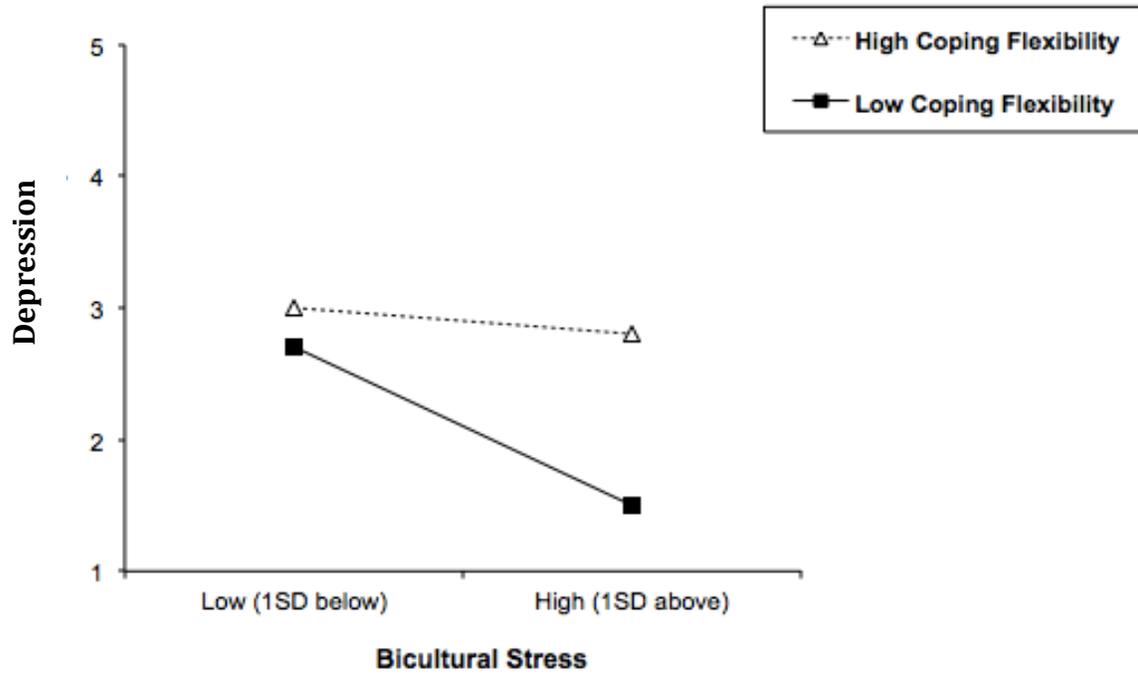


Figure 4. The Hypothesized Moderation Model: Coping Flexibility Moderate the Association between Perceived bicultural competence and Depression

CHAPTER TWO: LITERATURE REVIEW

“Minority individuals must learn to function in two environments: their own culture and that of the mainstream” (de Anda, 1984; p. 1).

Latina/os continue to be the largest ethnic minority group with the highest projected growth (Suro & Passel, 2003). Ethnic minorities, including Latina/os, likely hold a bicultural identity and experience stress associated to having a dual cultural identity (Benet-Martínez, Leu, Lee, & Morris, 2002; Chiang, 2007). Biculturalism promotes both positive and negative outcomes, however, our understanding of the stressful components of biculturalism are very limited (Smokoski & Bacallao, 2011). Bicultural stress is defined as the stress associated with fluidly navigating two cultural systems, which hold distinct cultural knowledge, values and meanings (Chiang, 2007). It is important to understand bicultural stress in Latina/os as they can be associated to negative outcomes. Life stressors have been associated with psychological distress (Monroe & Simons, 1991). This literature review presents four main parts. The first part is to address biculturalism in Latina/os. The second part is to address what is bicultural stress and then present the current literature on the association between bicultural stress and psychological distress. The third part is to address what is perceived bicultural competence and a mediation model of how perceived bicultural competence would mediate the association between bicultural stress and psychological distress. The fourth part is to introduce the role of coping flexibility on bicultural experiences and propose how coping flexibility serves as moderator for the above mediation model (i.e., paths for the direct effect and indirect effect). Finally, a summary of the present study was reiterated.

Biculturalism in Latina/os

In the past, assimilation (i.e., adapting to mainstream culture and leaving heritage behind) was once seen as the most adaptive and only productive modality of acculturation (Stonequist, 1937). The theory of marginality, asserted that individuals simply could not live in two cultures. The stress of navigating two cultural spheres was the main pillar for supporting the marginal-man theory. It was believed that not conforming to one culture only would lead individuals to unbearable confusion and severe psychological concerns (Stonequist, 1937). However, research and findings did not support this biased assertion and other modalities of acculturation emerged healthy alternatives to assimilation (Berry, Kim, Minde, & Mok, 1987). Currently, our understanding of acculturation modalities have expanded and included the concept of biculturalism (Berry, 1999). Biculturalism is the notion of living harmoniously in two cultures in a way that both are valued and integrated into one's identity (LaFrombois et al., 1996).

The Latina/o population in the United States is highly comprised of newer generation individuals, that is first generation (i.e., born outside of the U.S. and migrated in) and second generation (i.e., born in U.S. from immigrated parents) (Suro & Passel, 2003). Given this demographic, the acculturation process continues to be an active development in many Latina/os. Second generation Latina/os often need to make sense of their born American identity and the culture heritage. De Anda (1984) indicated that the process of being a bicultural individual (e.g., Latina/os) was dependent on many factors that could make it an easier task or subsequently a more distressful journey. Harwood et al. (2002) noted that bicultural development is a crucial component for Latina/os in the U.S. This is because various cultural values and norms may differ greatly compared to the cultural norms held by

mainstream culture. For example, Latino culture is formulated with values such as Familismo, which is the value of family unit above others and the individual. More globally, the various Latino heritages would fall under the umbrella of being collectivistic cultures (i.e., group prioritized over individual). Researchers have indicated that holding these values play a role in the decisions that Latina/os make in their lives (e.g., choosing to go to a community college to stay close to family) (Miranda, Bilot, Peluso, Berman, & Van Meek, 2006). On the other hand, mainstream American culture that holds individuals prioritized over groups (i.e., individualistic culture). Latina/os often learn to navigate these two cultural systems and often become bicultural (Ennis, Rios-Vargas, & Albert, 2011).

Experiencing difficulties in navigating two cultures is inevitable for most Latina/os. Even if Latina/o individuals do not hope to be involved in both cultures, certain aspects of stress still arise inevitably from both their family heritage culture and that of mainstream. For example, if a Latina/o choose to favor assimilation to mainstream, distress may still arise from family members who may not follow this acculturation goal. Similarly, distress would occur even if they choose remain more involved with their Latino culture. Certain cultural adaptations would still be imperative in order to function in the mainstream society. Inevitably, bicultural Latina/os are exposed to some level of bicultural stress (i.e., navigation of their beliefs and that of then mainstream norms). Unfortunately, the accumulation of the distress of holding onto two dynamic cultural systems can generate specific negative consequences. For example, researchers have revealed that being a bicultural individual may result in higher rates of stress and depression than in monoculture individuals (Hsu, 2012). Despite this notion, it is important to clarify that acknowledging the stressful components of living as a bicultural Latina/os does not legitimize the marginal-man theory. Instead,

biculturalism is a positive method of acculturation as it ultimately gives individuals a more rich experience. However, despite gaining the best of both worlds, so to speak, bicultural stress is still present. As clinicians, it is important for us to understand bicultural stress in ethnic minority populations, especially that of Latina/os who make up the largest ethnic community in the country (U.S. Census Bureau, 2010).

Bicultural Stress

Bicultural stress could be understood as a part of acculturation stress; however, it holds a separate etiology that is crucial to distinguish. Acculturation stress is the strain of entering a new culture, whereas, bicultural stress is the distress associated with holding two cultures simultaneously in one's life (Berry, Kim, Minde, & Mok, 1987; Romero & Roberts, 2003). The impact of acculturation stress in Latina/os and other ethnic minorities (i.e., Asian Americans) has been researched. It has been documented that acculturation stress is associated with various negative outcomes (Saldaña, 1994). Despite these gains in the literature, our understanding of bicultural stress is minimal. The psychological outcomes of being a bicultural Latina/o have been both positive and negative (LaFromboise et al., 1993; Romero & Roberts, 2003; Szapocnik, Kurtines, & Fernandez, 1980). The mixed results have been partially attributed to the lack of consistent conceptualization of constructs (e.g. bicultural identity, bicultural stress, perceived bicultural competence) within biculturalism (Birman, 1999). Alternatively, researchers have focused on aspects of biculturalism like self-identification (i.e., self-identified as being a bicultural Latina/o). For example, in a sample of Mexican American high school student, those that identified as bicultural tended to report higher scores of self-esteem (Bautista et al., 1994). In another study, bicultural individuals reported less depressive symptoms and higher subjective well-being (Baker et al., 2012).

These studies may shed light to the positive aspects of biculturalism in Latina/os but may also lead us to misguided conclusion on the experience of navigating two cultural systems (i.e., bicultural stress). Only self-identified bicultural Latina/os were included in these studies. Sampling bias may have limited the findings self-selected individuals who likely feel positively about their cultural experience in general. As addressed earlier, most new generation of ethnic minorities may have some level of biculturalism, regardless of their acculturation. Consequently, other Latina/os, who may have felt more identified with one culture over the other, may be the ones that struggle with bicultural stress. Integrating two cultures in to one's life can be a difficult task. Thus, it is likely that those who struggle in the process may choose to let go of one cultural "burden" and favor of the other.

In terms of measuring bicultural stress, one method is to assess specific situational distress (e.g., pressure to speak to Spanish) commonly experienced by Latina/os. Romero and Roberts (2003) developed the bicultural stressors scale, which provided a tool in addressing specific distressing experiences of bicultural Latina/os, however, this tool poses some limitations. One limitation is that it was developed as a scale for adolescent Latina/os. Another limitation is that it measures only some stressful contextual aspects encountered by bicultural Latinos such as "being treated poorly due to having an accent" or "feel that belonging to a gang is part of representing my ethnic group" (Romero & Roberts, 2003). Although the contextual situations may be very relevant to some bicultural Latina/os, they may also not be representative of all the components of bicultural stress. For instance, the stress of having to internally negotiate cultural because of dual exposure is not addressed. An example of this would be whether a Latina/os may wish to go on to a prestigious college and yet feel a desire or obligation to stay close to home. The negotiations and stress of debating

between the two values (e.g., familismo value or an individual's goal of attaining a good education) would constitute an aspect of bicultural stress. Consequently, bicultural stress has not been fully conceptualized in research with Latina/os. In response to the limited understanding of bicultural stress Chiang (2008) developed the Asian Bicultural Stress Scale. When validating and developing the scale, she found that bicultural stressors derived from multiple factors. Bicultural stress derives from both cultural contexts (i.e., American Cultural Situations, Asian Cultural Situations), concerns with acceptance and belonging (i.e., getting feedback of a person's cultural fit such as "not being Asian enough or American enough") and with bicultural negotiation stressors (i.e., the internalized decision process of navigating both cultures). These separate areas contributed bicultural stress experienced by Asian Americans. Although, this conceptualization of bicultural stress has not been tested and validated with Latina/os, similar experiences between the two groups can be expected.

Bicultural stress and Psychological outcomes.

Feeling pressures from both Latino and Mainstream cultural situations/groups can increase bicultural stress. Although bicultural stress has been minimally researched as a distinct construct, other related constructs have provided some understanding of stress derived from being bicultural. For example, Castillo (2009) addressed how bicultural Latina/os are faced with rejections and pressures from their ethnic community including their family. Intragroup marginalization is partly due to the fact that bicultural Latina/os also hold mainstream American identities and values. Likewise, white attitudinal marginalization (i.e., discomfort with White cultural values and beliefs) is not only experienced by bicultural Latina/os but also related to higher experiences of distress in Latina/os (Castillo, Conoley, &

Brossart, 2004). This indicates bicultural Latina/os accumulated stress from navigating both cultural contexts, which is bicultural stress.

Among limited research studies on bicultural stress, some scholars have documented the positive associations between bicultural stress and psychological concerns (Rodriguez, Jones, & Pong, 2004; Torres, 2010), such as depression, low life satisfaction, low self-esteem, or risk behaviors. Some of the links between bicultural stressors and depression have already been noted in literature. Bicultural stress was positively related to depression in a sample of 8th grade Latina/o and Asian adolescents (Romero, Carvajal, Volle, & Orduña, 2007) and in a sample of adolescent Latina/o students (Romero & Roberts, 2003). Aside from depression concerns, bicultural stress has also been associated to other negative outcomes in Latina/os. In a study of 191 Mexican American adolescent, bicultural stress had a negative significant relationship with life satisfaction. Additionally, those that reported more bicultural stressors also reported lower self-esteem (Piña-Watson, Ojeda, Castellon, & Dornhecker, 2013). Both self-esteem and life satisfaction are negatively related to depression (Umaña-Taylor & Updegraff, 2007). Therefore, these findings would further support that in bicultural stress in Latina/os is likely to be positively related to the indices of psychological distress (e.g., depression).

Additionally, Romero, Martinez, and Carvajal (2007) found that bicultural stress significantly and positively related to higher risk behaviors in a sample of 304 Latina/o adolescents. This relationship was supported again in longitudinal study of immigrant Hispanic students. That is, Oshri et al. (2014) found that bicultural stress was significantly and positively associated with risky alcohol consumption behaviors. Students who reported higher distress associated with holding dual cultural roles also indicated more interest in

engaging in hazardous drinking behaviors. These findings pose a concern about the impact of bicultural stress on individuals. Likewise, researchers have addressed negative association of bicultural stress with identity affirmation (i.e., positive view of one's ethnicity) in a study with Mexican American adolescent men (Ojeda & Liang, 2014). In another study utilizing a similar sample (i.e. Mexican American adolescents), bicultural stressors was found to be negatively related to life satisfaction and self-esteem (Piña-Watson, Ojeda, Castellon, & Dornhecker, 2013). These prior findings indicate that bicultural stress is a complex construct that is likely impact many other psychological outcomes. As mentioned previously, it was hypothesized that bicultural stress would have a positive and significant relationship with psychological concerns including depression in Latina/os. Latina/os who feel pressures from both cultural contexts, have concerns with their belonging in both cultures. Additionally, they may struggle to negotiate their own cultural stance. This bicultural stress would then relate to higher levels of depression. As presented previously, literature supports the positive association between bicultural stress and depression (see path a Figure 1).

Perceived bicultural competence as a Mediator

Bi-cultural competence is the belief that one can function effectively in two cultures without a sense of sacrificing an active identity in both cultures (LaFrombroise et al., 1993). In their theory of biculturalism, LaFromboise and colleagues (1993) delineated that an individual could live harmoniously in two cultures given that they held the necessary tools to navigate both cultural systems. Although limited, a few studies have demonstrated the relationship between perceived bicultural competence and positive outcomes. Perceived bicultural competence was found to have significant a positive relationship with affective educational commitment (i.e., intrinsic emotional bond to goal of completing a higher

education) in a sample of community and university college students (Botello-Zamarron, 2012). Similarly, perceived perceived bicultural competence was positively associated to mental health and subjective well-being of ethnic minority college students (David, Okasaki, & Saw, 2009). In study regarding mental health concern of Puerto Rican mothers living in the U.S. mainland, those that were more actively and effectively involved with both cultures (i.e., Puerto Rican and mainstream American culture) reported less mental health concerns (Lopez & Contreras, 2005). The researchers of this study concluded that their perceived bicultural competence and involvement significantly related to their minimal mental health concerns. Clearly, perceived bicultural competence seems to be a positive collection of attributes to have.

Perceived bicultural competence and Depression Perceived bicultural competence has also been associated with various stressors experienced by ethnic minorities such as Latina/os. Wei et al., (2010) found that that perceived bicultural competence was negatively related to depressive symptoms in a diverse sample of ethnic minority college students (i.e., Latino/a American, Asian American, African American). Likewise, Miller et al., (2011) found that bicultural self-efficacy was negatively related to mental health concerns in a sample of Asian American adults across the country. Similar patterns of perceived bicultural competence and outcomes have emerged in studies with other ethnic groups. In a study with Korean American young adult college students, perceived bicultural competence was negatively related to acculturation stress and discrimination (Yoo, 2014). On a similar note, in a study of distinct Asian and Asian American bicultural, researchers concluded that bicultural skills and competences were among the crucial antecedents to psychological outcomes when navigating to cultural worlds (Chen, Benet-Martinez & Harris Bond, 2008).

Perceived bicultural competence is crucial to harmoniously navigating a bicultural identity (LaFrombois et al., 1993). Because Latina/os are often forced to navigate cultural values and beliefs that are not congruent between cultures, holding perceived bicultural competence can be a crucial aspect in order to hold a healthy psychological experience. For this reason and the above empirical findings, the hypothesized role of perceived bicultural competence on depression for Latina/os in the U.S. was proposed (see path b in Figure 1).

Bicultural stress and perceived bicultural competence. On a similar note, bicultural stress and perceived bicultural competence are likely to hold a negative relationship (see path c in Figure 1). When Latina/os struggle with holding both of their cultures harmoniously they have difficulty feeling biculturally competent. For example, bicultural stress has also been associated with higher awareness of racialized concerns (e.g., racial disparities and cultural experiences). In a sample of diverse Asian American (e.g., Vietnamese, Korean, or Chinese) college student sample, bicultural stress was positively related to both racial consciousness (i.e., knowledge about racial disparities) and prejudiced concerns (Kuo-Jackson, 2000). This may indicate that bicultural stress could remind individuals of their racialized experience and struggles in feeling competence in both culture. Awareness of racialized struggles such as lack of perceived bicultural competence, can further promote psychological distress. Studies with ethnic minorities have also supported the assertion that perceived bicultural competence is a mediating variable between stress and psychological well-being. For instance, perceived bicultural competence was found as mediating variable between acculturative family distancing (i.e., acculturation gaps between parents and children) and psychological concerns (i.e., depression) in Latina/o college students (Carrera & Wei, 2014). Thus, in this study, it is proposed that perceived bicultural

competence mediates the relationship between bicultural stress and depression (see paths b and c in Figure 1). The rationale is that bicultural stress would promote Latina/os to question their perceived bicultural competence. They would doubt their ability to hold broad values and to navigate expanded cultural roles. This uncertainty and distrust in their perceived bicultural competence would then be associated with negative psychological concerns. As already mentioned, empirical studies have provided an indirect evidence for this possibility in the literature. Bicultural stress seems to be an inevitable experience. Thus, it is crucial to understand the role of perceived bicultural competence as it can provide us with more clinical implication in our understanding of how bicultural stress impacts depression.

Coping Flexibility as a Moderator

Given the multiple generating factors of bicultural stress (i.e., Latino and Mainstream cultural situations, belonging and cultural negotiations), effective coping mechanisms and strategies is imperative. However, coping depending on cultural contextual pieces has been understudied and largely ignored in the literature (Heppner, 2008). Contextual pieced of coping have proven to be important to understand. For example, past findings indicated that active coping was associated with better psychological adjustment in Mexican American college students. However, a recent meta-analysis indicated the benefits of active coping when experiencing discriminations are mixed (Lee & Ahn, 2012). This contradicted previous beliefs that specific types of coping were always constantly more effective. In addition, this can indicate that effective coping depends on the specific stressor involved and the context.

Because of the complex nature of being part of two cultural groups, situations often feel less clarified than monoculture experiences. Roccas and Brewer (2002) identified that this generates more ambiguity in bicultural lived experiences. Given this ever changing

nature, Latina/os need to be able to flexibility adept to concerns. Coping flexibility can be imperative when the stressors are contextually complex and always shifting at both a cultural and individual level. Birman (1999) indicated that many researchers indicated “biculturalism is the most advantageous style for acculturating persons because it allows personal flexibility to draw upon different sets of skills depending on the specific cultural demands of different situations” (p. 337). Coping flexibility is one’s ability to adapt coping mechanisms to specific stressors to alleviate these more effectively. It is the ability to continue or discontinue coping strategies as they prove themselves efficient or fail to be helpful (Kato, 2012).

Research on coping flexibility has indicated that being flexible in use of coping strategies is an effective method of addressing situational stressors. For example, Fresco, Williams, and Nugent (2006) found that those with higher coping flexibility were less likely to develop depressive symptoms following a negative life event. Another study with both U.S. and Chinese Married and Bereaved individuals found that lack of coping flexibility was related to meeting criteria for the psychological diagnosis of complicated bereavement. Additionally they found that this association was true across the two cultural groups (i.e., U.S. and Chinese). These findings indicate the robust benefit of coping flexibility and its benefit to distinct stressors and individuals. Cheng and Cheung (2005) noted that those with higher coping flexibility tend to pay attention to situational factors associated with distress. Bicultural stress is generated from numerous and distinct situations, thus coping flexibility may be a key moderator.

Research on the application of coping flexibility in bicultural context is limited. However, literature on a similar construct, cognitive flexibility can provide some understanding of the role of coping flexibility (i.e., an individual’s ability to adapt to

situations and consider alternatives; Brewster et al., 2013). Cognitive flexibility was negatively related to bicultural stress in a sample of first and second generation Chinese Americans (Lau, 2013). In a study with Japanese-Americans, cognitive flexibility was related to both cultural navigation (i.e., self-reported biculturalism attributes) and general self-efficacy (i.e., the belief that one can work and be able to attain specific goals; Shimogori, 2014). On the opposite spectrum cognitive in-flexibility (i.e., lack of cognitive flexibility) was related to elevated generalized anxiety disorder (Lee & Orsillo, 2014). Finally, findings indicated that greater cognitive flexibility was negatively related psychological distress (Palm & Follette, 2011). This suggested that cognitive flexibility or factor within this construct (i.e., coping flexibility) maybe an alleviating and moderating factor in the relationship between specific stressors (e.g., bicultural stress) and psychological outcomes.

These findings support our hypothesized model, in which coping flexibility was a moderator for the following relationships in the mediation model (see Figure 1). First, it was expected that coping flexibility may be a buffer in the positive relationship between bicultural stress and depression (see path d in Figure 1). For those with lower coping flexibility but not higher, a positive association between bicultural stress and depression would be significant (see the solid line in Figure 2). Past findings in similar studies support this hypothesis. For instance, cognitive flexibility served as buffer between sexual minority stress (i.e., the stress associated with being a sexual minority in a heterosexual dominated society) and psychological well-being in a sample of bisexual individuals (Brewster et al., 2013). In a second hypothesis, it was expected that coping flexibility would moderate the relationship between perceived bicultural competence and depression (see path e). In this case, those with higher but not lower coping flexibility would have a positive relationship

between perceived bicultural competence and depression. This would be because those with the ability to be flexible in their coping mechanisms would be able to better utilize their perceived bicultural competence and thus, report less depression (see the dashed line in Figure 3). Finally, the last hypothesis is that coping flexibility would also moderate the relationship between bicultural stress and perceived bicultural competence. Literature has indicated that stressors associated to being in minority role (e.g., minority stress and bicultural stress) are negatively related to perceived bicultural competence. In this case, those with higher coping flexibility would be able to effectively deal with bicultural stress and thus protect their sense of competence in both cultures (i.e., perceived bicultural competence). On the other hand those with bicultural stress and lowered coping flexibility may not tailor their coping skills to be effective and thus, their perceived bicultural competence would be lower (see the solid line in Figure 4). All in all, if these relationships are supported, the implication for therapy would be vast. For example, researchers have already developed training in cognitive flexibility and benefits to psychological concerns have been documented (Brockmeyer et al., 2014). Researchers can develop training in coping flexibility in order to gain benefits to lowering psychological distress and enhancing perceived bicultural competence.

The Current Study

Primarily, this study focused on examining the moderated mediation effects for the associations between bicultural stress and depression in Latina/os. First, it was hypothesized that bicultural competency mediates the relationship between bicultural stress and depression (see path b and c in figure 1). Second, it was proposed that coping flexibility would moderate the direct and indirect links in the above mediation model, (a) the link between bicultural

stress and depression (see path d in figure 1), (b) the link between perceived bicultural competence and depression (see path e in figure 1), and (c) the link between bicultural stress and perceived bicultural competence (see path f in figure 1).

CHAPTER THREE: METHOD

Participants and Procedure

First and for most, an approval from the Iowa State university Institutional Review Board (IRB) was obtained before collecting data. A sample of Latina/os students were recruited from three Large Midwestern public universities classified as primarily White institutions (i.e., PWI). List containing email addresses of all self-identified Latina/o students from each institution was obtained. Potential participants were invited to volunteer via email that included a link to an online survey. Principal criteria for participation was that they self-identified as Latina/os and be at least 18 years old. All data was collected via an online survey. Once participants agreed to be part of the study they were asked to complete the online demographic questioners and relevant measures. Because of the university setting, it was expected that all participants would be able to complete survey in English, thus all surveys were only offered in one language. Participants were informed that the purpose of the study was to understand their dual cultural experience as a Latina/o in the U.S. Additionally, they were informed that the online study would take approximately 20-30 minutes to complete and it would be through qualtrics.com. To ensure validity of the responses, three validity-checking items were randomly inserted throughout the survey to be able to detect random responding (e.g., “Please select strongly agree in this item”). Upon completions, a “Thank-you” page and debriefing information was provided.

Instruments

Bicultural Stress Scale. Bicultural Stress was measured by a modified version from Asian Bicultural Stress Scale (ABSA; Chiang, 2007) through a replacement of Asian Americans to Latino/as Americans. Due to similar historical immigration context between

Asian Americans and Latina/o Americans, it was expected that this scale could be valid within the Latina/o population. For example, both Asian and Latino cultures cultivate collectivistic cultural values and both typically immigrated voluntarily to the U.S. The modified version of ABSS is a 42-item scale measuring the perceived bicultural stress that is experienced by Latino/as Americans. There are four factors, (a) bicultural negotiation (i.e., internal process of having to reflect on navigation of two cultures and juggling two perspective), acceptance and belonging (i.e., situations where feedback is given regarding one's membership in that cultural group), stressors associated with ethnic culture (i.e., situations compromising cultural patterns and values in Latina/o culture), and stressors associated with mainstream culture (i.e., situations compromising cultural patterns and values in Mainstream culture). Participants would then be asked to address how stressful the aspects of the items were for themselves utilizing a 4 point Liker scale, ranging from (1) *never stressed* to (4) *very stressed* plus the "not applicable" option. The score ranges from 0 to 172 with a higher score indicating a higher level of bicultural stress. In a sample of Asian Americans, Chiang (2007) report an alpha coefficient of .78 for the total score. Convergence and discriminant validity was established. The ABSA scale was positively related to perceived stress and negatively related to collective self-esteem (i.e., feelings toward one's own ethnic group). For this study, the psychometric properties of this modified factor structure, reliability and validity was examined for use with Latino/as Americans.

Bicultural Self-efficacy Scale. Perceived bicultural competence was assessed by the **Bicultural Self-efficacy Scale** (BSE; David et al., 2009). The BSE is a 26-item scale to assess an individual perceived competence to mainstream and their ethnic culture. It consists of six subscales that were corresponding with six domains derived from LaFromboise et al.

(1995) theory of perceived bicultural competence. The six subscales are social groundedness, communication ability, positive view of both cultural groups, cultural knowledge and beliefs, role repertoire and bicultural beliefs. Sample items for subscales are: social groundedness (“I can develop relationships with both mainstream and my ethnic culture”), communication ability (“I can switch easily between standard English and my cultural language”), positive view toward both groups (“I take pride in both the mainstream and the heritage culture”), knowledge of cultural beliefs and values (“I am knowledgeable about history of both Mainstream America and my ethnic cultural group”), role repertoire (“An individual can alter their behavior to fit in a particular social context”) and bi-cultural beliefs (“Being bicultural does not mean I have to compromise my sense of cultural identity”). Participants answers measured on a polarized 9-point Likert-type scale, ranging from (1) *strongly disagree* to (9) *strongly agree*. The BSE has been utilized on several ethnic minority groups including Latina/os. In the previous studies, coefficient alphas were .92, .93 and .94 among Latino/Hispanic American students (Botello-Zamarron, 2012; Carrera & Wei, 2014; Wei et al., 2010). Validity information was supported by positive relationships with ethnic identity, self-esteem and enculturation among a pool undergraduate ethnic minority students that included Latino students (David et al., 2009).

Coping Flexibility Scale. Coping flexibility was measured using the Coping Flexibility Scale (CFS; Kato, 2012). The CFS is a 10 items scale used to assess one’s ability to cease ineffective coping and produce/implement adaptive coping mechanisms. It consists of two subscales which are evaluation coping (i.e., ability to discontinue ineffective coping) and adaptive coping (i.e., ability to engage in alternate adaptive coping mechanisms). A sample item for evaluation coping is “If I feel that I have failed to cope with stress, I change

the way in which I deal with stress.” A sample item for adaptive coping is “When stressed, I use several ways to cope and make the situation better.” A likert-type scale ranging from (1) *very applicable* to (4) *not applicable* is used. This scale has not been normed on Latina/os, thus part of this study was to validate this measure with a Latina/o sample. However, previous studies on ethnic minorities (e.g., Japanese college students) indicated strong coefficient alphas of .78, .81, and .71 for evaluation coping and .90, .90, and .87 for adaptive coping among three examples, respectively. Validity was also provided by positive associations of the CFS with cognitive flexibility and problem-solving coping style. Bejerano (2014) provided support for validity and reliability in a sample of ethnically diverse college students at large Midwestern University, which included Latina/o students.

Depression. Depression was measured by the Depression subscales from the Depression, Anxiety and Stress Scales-short version (DASS-short version; S. H. Lovibond & P.F. Lovibond, 1995). This short version of DASS is a 21-item scale, which was originally a 42-item measure. The Depression subscale has seven items (e.g., “I felt downhearted and blue). Additionally, coefficient alphas was .93 for depression (Daza, 2002). Daza (2002) provided validation for the DASS-short version on a sample of bilingual Hispanic adults. Convergent validity was established using the Beck Depression Inventory.

Power Analysis

Power analysis was addressed in three data analysis methods. First, confirmatory factor analysis (CFA) was used to see whether bicultural stress scale confirmed in the current Latino/a sample. In term of sample size for CFA, based on the rule of thumb, at least 5 participants were needed for one item. Bicultural Stress Scale includes 42 items. Therefore, about 210 participants ($5 \times 42 = 210$) were needed for CFA. Second, for the mediation

model, Comrey and Lee (1992) suggested 200 to 300 participants were needed. For the moderation, the current study aimed to obtain a small to medium effect size for the 2-way interaction. In the G*Power 3.1.5 program (Faul, Erdfelder, Buchner, & Lang, 2009), a power analysis was set at power of .80, an alpha level of .05, and a small and medium effect size (i.e., $f^2 = .02$ or $.15$, respectively) for the incremental two-way interaction effect. The result suggested a sample size of 485 to 68 were needed for a small and medium effect size, respectively. In this study approximate 200-300 was chosen to yield a small to medium effect.

Data Analytic Procedure

First, because the bicultural stress scale was developed and normed for an Asian American population, the scale was tested and validated for the current Latina/o population. A confirmatory factor analysis (CFA) was conducted through Mplus on the bicultural stress scale to see whether the factor structure conformed by the Latina/o sample in this study. This tested whether items load on to their corresponding factors and whether the factor structure was validated by this Latino/a sample. Three goodness-of-fit indices were used to evaluate the model fit (i.e., the comparative fit index [CFI], the standardized root-mean-square residual [SRMR], and the root-mean-square-error approximation [RMSEA]; Hu & Bentler, 1999). Criteria for acceptable fit ranged from $CFI > .90$ and $SRMR$ and $RMSEA < .10$ to more conservative criteria of $CFI > .95$, $SRMR < .08$, and $RMSEA < .06$ (Hu & Bentler, 1999). In addition, validity information was established through an examination whether bicultural stress was positively associated with depression and negatively associated with perceived bicultural competence. The moderated mediation hypotheses used Process, a SPSS macro program (Hayes, 2013). For the mediation hypothesis, bias-corrected bootstrapping in

PROCESS was used. Bootstrapping method computed the means of 1,000 estimated indirect effects. Significant mediation would be concluded if a 95% confidence interval for indirect effects do not include zero. For the three moderation hypotheses, if there is a significant moderation, results from the simple slope analysis was reported (Hayes, 2013; Fraizier et al., 2004). In order to understand the nature of simple effect, we plotted the moderation effects at one standard deviation above and one standard deviation below the means of a predictor and a moderator (see Figures 2-4; Aiken & West, 1991; Fraizier et. al., 2004).

CHAPTER 4: RESULTS

Preliminary analysis

A total 214 participant responses were included in the final analyzed sample. The majority of the participants identified as female (67%) and about half identified second-generation (49.5%; they were born in the U.S. but had parents born in another country). Slightly more than half identified their ethnicity as Mexican-American (53.7%). The age range was 18-50 years old with a mean age of a 23.34, (SD=6.31). Sixty-seven percent were classified as undergraduate students.

Missing value analysis (MVA) on SPSS was utilized to address missing data. Missing values were imputed using Expectation Maximization (EM). EM values are generated based on parameter patterns and maximum likelihood estimation of values (Acock, 2005, Schafer & Graham, 2002). Utilizing the Little's Missing Completing at Random (MCAR) test to examine missing data, a non-significant result, $\chi^2 (6, N = 214) = 2.19, p = .90$, indicated missing data is completely at random (Schlomer, Bauman, & Card, 2010).

Initial Validation for the Latino Bicultural Stress scale

The Latino Bicultural Stress scale (LBS) is a modified scale derived from the Asian American Bicultural Stress scale (AABS; Chiang, 2008). Prior to running the hypothesized analysis, a confirmatory factor analysis (CFA) was initially conducted to examine whether the original AABS can be applied to Latino Americans as modified LBS. Mplus was used to analyze the CFA. The Root Mean Square Error of Approximation (RMSEA; < .06), Comparative Fit Index (CFI; > .95), and Standard Root Mean Square Residual (SRMR; < .08) were used as indicators for model fit (Hu & Bentler, 1999).

Chiang (2008) indicated that AABS has four factors. Therefore, the original, four-

factor oblique model was analyzed to examine whether the modified version of LBS for Latino Americans could confirm the original scale structure suggested by AABS for Asian Americans (Chiang, 2008). Utilizing the whole sample, the CFA model result indicated that the data did not confirm to all of the criteria suggested by Hu and Bentler 's (1999). The CFI indicated a poor fit while the other indicators provided reasonable good fit, χ^2 (854, $N = 214$) = 1945.73, CFI = .77, RMSEA = .08 [.07, .08], SRMR = .08). Consultation with a departmental statistics consultant (F. Lorenz, personal communication, May, 2016), suggested that inconsistent poor fit in CFI parameters was likely due to the small sample size. Because of small sample size, parceling was used to reduce the parameters to be estimated (Little, Cunningham, Shahar, & Widaman, 2002). Russell, Kahn, Spoth, and Altmaier's (1998) recommendation for parceling was used to create three parcels as indicators of each factor as a latent variable. The principal axis factoring (PAF) was used for each of the four factors. Items were ranked order on the basis of the magnitude of the factor loadings (e.g. from highest to lowest factor loadings) to successively assigned the highest and lowest items to each of the three parcels to equalize the average loadings of each parcel in the respective factor. Scores on the three parcels were created by computing the average score for each parcel set. Results from CFA utilizing parcels indicated a good model fit (χ^2 (48, $N = 214$) = 100.30, CFI = .97, RMSEA= .07 [.05, .09], SRMR =.03. This indicates that the LBS 43-item scale holds a similar structure to the original scale developed for Asian Americans. The reliability for the parcel items for the modified LBS was also adequately good ($\alpha = .93$).

Development of a Shorter Version for LBS

Even though the LBS validated the 4 factor structures by using the parcel method, a total of 43 items is likely to reduce the possibility to use this scale in the future. Therefore,

shortening this scale with fewer items can increase the utility for future use. The data was randomly split in approximately half to form two data sets (Sample A [$n = 113$] and Sample B [$n = 101$]). Sample A be used for exploratory factor analysis and Sample B would be used for confirmatory factor analysis.

Exploratory factor analysis. Before conducting the exploratory factor analysis, a parallel factor analysis was used to determine how many factors to extract (Brown, 2015; Kahn, 2006; Russell, 2002). Parallel analysis draws upon a random sample of 1,000 data sets with eigenvalues. Results indicated that first three factors were higher (13.84, 3.48, 2.29) than the random sample in the parallel analysis (2.6, 2.35, 2.22). As we can see, although a three-factor solution was suggested based on the parallel analysis, the third eigenvalue in this dataset was minimally larger than that reported on the parallel analysis. Therefore, both orthogonal (i.e., varimax) and oblique (i.e., promax) models were explored using one-, two- and three-factor solutions.

After explorations and comparisons, the two-factor oblique model was observed to have the most interpretable solution for the LBS. Items in the two-factor model accounted for 38.39% of the variance after oblique rotation. Factor 1 combined the original bicultural negotiation as well as acceptance and belonging subscales and Factor 2 integrated the original American cultural stress and Latino cultural stress. Utilizing the pattern matrix, items selected for these two factors were based on the following criteria: (a) loading more than .50 on the factor (b) no cross loading more than .30 on the other factor. Additionally, no more than 10 items were selected to keep the scale brief and usable as possible (Brown, 2006; Tabachnick & Fidell, 2007). Taking these criteria into account, 20 total items were kept from

the original 43 and only 2 factors were extracted (see Table 1). A second PAF analysis for the top 20 items (i.e., 10 for each factor) was conducted on this set of 20 items. A two-factor solution accounted for 47.97% of the total variance in the items after rotation. Loadings of the items on the respective factors all exceeded .50 and no item was found to have a cross-loading exceeding .30 on the other factor. Descriptive information of the new 20-item LBS and both subscales are included in Table 1.

The first 10-item factor was labeled *Bicultural Navigation Stress* and it accounted for 36.7% of the variance after extraction. This factor addresses the stress associated to balancing, belonging to and navigating two cultures. That is as a Latina/o in the U.S. living within the dominant mainstream U.S. culture and also within their Latino heritage, family and community. Example items include “When you try to maintain both Latino and American ways of life in your beliefs and behaviors” and “When you juggle between Latino and American cultural values and expectations.”

The second 10-item factor was labeled *Individualistic Shift Stress* and it accounted for 11.17% of the variance after extraction. The second factor is the stress of engaging individualistic values and norms that contradict collective values often embraced by Latino culture. Latina/o students may find it difficult to engage in ways that are self-focused and with disregard to group values. Items include “When you are expected to voice your thoughts and feelings at school or work” and “When you do not follow the expectations of your family.”

Table 1
 Items, Factor Loadings, Mean, and SD for the Latina/o Bicultural Stress Scale

	1	2	<i>M</i>	<i>SD</i>
<u>Bicultural Navigation</u>				
7. When you try to maintain both Latino and American ways of life in your beliefs and behaviors	.84	-.18	2.08	1.13
4. When you juggle between Latino and American cultural values and expectations	.83	-.08	2.33	1.12
14. When you try to balance both Latino and American cultures	.79	.03	2.04	1.08
5. When you act or behave “American” in a Latino setting and environment	.78	-.16	2.30	1.22
43. When you juggle both Latino and American Standards	.73	.16	1.98	1.04
11. When you have to constantly switch back and forth between Latino and American norms and expectations	.66	.10	1.80	1.08
17. When you are told you are acting too “American”	.65	.02	2.08	1.41
36. When you feel like you have to choose between acting more “Latino” or more “American” depending on the situation	.60	.17	2.14	1.36
39. When you think about what it means for you to be a person exposed to two cultures	.54	.11	1.89	1.01
18. When others may not understand your experience as a person exposed to two cultures, Latino and American	.51	.06	2.53	1.15
<u>Individualistic Shift Scale</u>				
22. When you argue or disagree, causing conflict in relationships	-.20	.84	2.79	1.07
23. When you are expected to voice your thoughts and feelings at school or work	-.09	.77	2.36	1.04
21. When you are direct and honest with others	-.01	.73	2.03	1.00
40. When you do not consider the opinions of others	-.10	.68	2.07	1.18
12. When you are assertive about your opinions at work or school	.10	.64	2.04	1.05
28. When you share or express your emotions	.13	.63	2.26	0.99
19. When you place importance on yourself before others	.08	.59	2.40	1.17
16. When you do not follow the expectations of your family	.15	.55	2.73	1.18
33. When you put your own needs ahead of the needs of your family members	.10	.55	2.58	1.15
37. When you are expected to sacrifice your time to help other	.05	.52	2.19	1.02

Note. *N* = 113

Table 2
Means, Standard Deviations, Alpha, Possible Range, and Correlations of all variables

	1	2	3	4	5	6
1. Latino Bicultural Stress (LBS)	---					
2. Bicultural Navigation Stress (BNS)	.91***	---				
3. Individualistic Shift Stress (ISS)	.86***	.56***	---			
4. Perceived bicultural competence (BC)	-.28***	-.29***	-.20**	---		
5. Coping Flexibility (CF)	-.08	-.07	-.06	.15*	---	
6. Depression	.36***	.31***	.33***	-.33***	-.19**	---
<i>Mean</i>	2.23	2.12	2.34	6.53	1.87	0.66
<i>SD</i>	0.72	0.88	0.73	1.15	0.41	0.65
<i>Possible Range</i>	0-4	0-4	0-4	1-9	0-3	1-4
<i>alpha</i>	.92	.92	.87	.92	.71	.92
<i>[95% CI]</i>	.91-.94	.90-.93	.84-.89	.91-.94	.65-.76	.91-.94

Note. $N = 214$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Confirmatory factor analysis. Mplus was used to validate factor structure of the modified 20-item LBS Scale. In addition to the two-factor oblique model, alternative models were also tested. A one-general factor model, two-factor orthogonal, and bi-level model were compared to each other. Table 2 indicated the detailed fit indices for each model. The two-factor orthogonal model and the one general factor model both failed to meet goodness-of-fit criteria. However, both the two-factor oblique model and bi-level model demonstrated adequate fit. It is also important to note that these two models were not nested models. When two non-nested models were compared, smaller values for Akaike's Information Criterion (AIC) indicates a better-fit model (Maruyama, 1998). Therefore, the bi-level model appeared to be the best fitting model for the dataset. That is, LBS can be used as one general concept

with the 20 items and the 2 subscales (i.e., Bicultural Navigation Stress and Individualism Shift Stress) can be used separately also.

Reliability and validity. Using the total sample ($N = 214$), the internal consistency for the final 20-item of LBS was examined to determine whether reliability is adequate. The alphas for the Bicultural Navigation Stress subscale (BNS; $\alpha = .92$, 95% CI [.90, .93]) and the Individualism Shift Stress subscale (ISS; $\alpha = .87$, 95% CI [.84, .89]) were both adequate. The final modified 20-item LBS also demonstrated good internal consistency of .92 (95% CI [.91, .94]). The correlation between the two factors was significant with a large effect size ($r = .56$, $p = .01$). Furthermore, construct validity evidence was also supported as LBS, BNS, and ISS were positively associated with depression ($r_s = .36$, $.31$, and $.33$, $p_s < .001$ respectively). Additionally, discriminate validity was supported by the negative correlation with perceived bicultural competence ($r_s = -.28$, $-.29$, and $-.20$, $p_s < .01$, respectively).

Table 3
Goodness-of-Fit Indicators for the Competing Models for the 20-Item LBS

Model	Df	χ^2	CFI	RMSEA [CI]	SRMR	AIC
1. Two-Factor Oblique Model	169	271.26	.91	.08 [.06, .09]	.07	5310.72
2. Bi-level Model	150	217.63	.94	.07 [.05, .09]	.05	5295.08
3. Two-Factor Orthogonal Model	170	315.31	.87	.09 [.08, .11]	.23	5352.76
4. One General Factor Model	170	398.08	.79	.12 [.10, .13]	.09	5435.53

Note. LBS= Latina/o Bicultural Stress Scale; CFI =comparative fit index; RMSEA = root-mean-square error of approximation; CI =90% confidence intervals for RMSEA; SRMR = standardized root-mean-square residual; AIC = Akaike's information criterion.

Mediation Model

Hayes (2013) PROCESS was used to examine the mediation model. In other words, Model 4 in the process was used to test whether perceived bicultural competence (M: mediator) mediated the association between bicultural stress (X: predictor) and depression (Y: dependent variable). The PROCESS program generated a total of 1,000 bootstrap samples and provides a 95% CI for each estimator by using the bias-corrected bootstrap method. If CI does not include zero then a significant relationship is concluded (Mallinckrodt, Abraham, Wei, & Russell, 2006; Shout & Bolger, 2002). In Table 4, the link from bicultural stress (X) to perceived bicultural competence (M) was significantly negative ($b = -0.45$) and the link from perceived bicultural competence (M) to depression was also significantly negative ($b = -0.14$) after controlling for bicultural stress. In PROCESS, the indirect (mediation) effect from bicultural stress (X) to depression (Y) through perceived bicultural competence (M) was significant, $b = 0.06$, $se = .03$, $CI = [.02, .13]$ (see Figure 5)

Table 4
Mediation Analysis for Bicultural Stress, Coping Flexibility, Perceived bicultural competence, and Depression

Variable	<i>B</i>	<i>SE B</i>	<i>t</i>	95% <i>CI</i>
<u>Dependent Variable: Perceived bicultural competence (M: Mediator)</u>				
Constant	7.53	.25	30.29***	[7.04, 8.02]
Predictor (X): Bicultural Stress	-0.45	.11	-4.25***	[-.66, -.24]
<u>Dependent Variable: Depression (Y)</u>				
Constant	0.97	.30	3.20**	[0.37, 1.57]
Mediator (M): Perceived bicultural competence	-0.14	.04	-3.80***	[-.21, -.07]
Predictor (X): Bicultural Stress	0.27	.06	4.54***	[.15, .38]

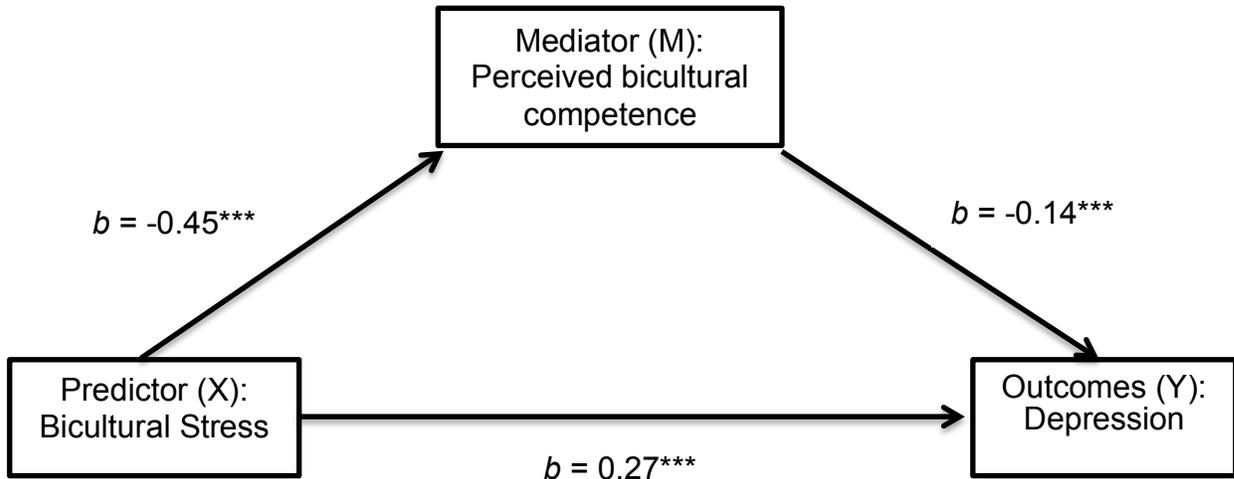


Figure 5: The Mediation Model

Moderated Mediation of Perceived bicultural competence and Coping Flexibility

Hayes (2013) PROCESS was used to examine the moderated mediation model. That is, Model 59 in PROCESS was used to see whether coping flexibility (W: moderator) moderated the effect of bicultural stress (X: predictor) through perceived bicultural competence (M: mediator) on depression (Y: dependent variable). Additionally, the model tested whether coping flexibility moderated the direct effect of bicultural stress (X) on depression and the indirect effect of bicultural stress (X) on depression (Y) through perceived bicultural competence (M; see Figure 1). Similar to the above mediation, using the bias-corrected bootstrap method, PROCESS provides evidence if both moderation of indirect (mediation) and direct effects are significant in the model. Additionally, PROCESS automatically provides conditional indirect and direct effect information at different levels of

the moderator, in this case +/-1 SD from the mean of the (W) moderator (i.e. coping flexibility). The PROCESS program generates a total of 1,000 bootstrap samples and provides a 95% CI for each estimator. If CI does not include zero and a significant relationship is concluded (Mallinckrodt et al., 2006; Shout & Bolger, 2002).

First, results indicated that the moderation effect of coping flexibility (W) on the association between bicultural stress and perceived bicultural competence (M) was not significant (see Table 5). Further, the moderation effect of coping flexibility (W) on the direct effect of bicultural stress (X) on depression (Y) was also not significant. However, the moderation effect of coping flexibility on the association between perceived bicultural competence and depression was significant ($B = 0.20$, 95% CI = [.04, .37]). The conditional direct effect (i.e., simple direct effects for higher and lower coping flexibility) was examined for this association. Results indicated that the simple direct effect from perceived bicultural competence to depression was significant for lower coping flexibility ($B = -0.22$, $p < .001$), but not significant for the higher coping flexibility ($B = -0.05$, $p = .29$; see Figure 6).

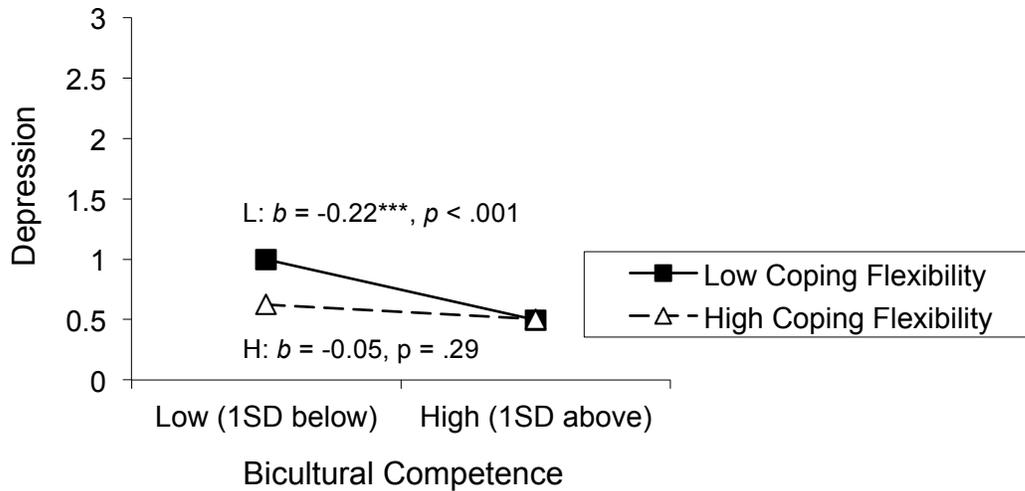


Figure 6. Conditional Direct Effect of Perceived bicultural competence on Depression at Lower and Higher Levels of Coping Flexibility. *** $p < .001$.

Furthermore, the simple indirect effect (i.e., conditional indirect effect) was significant for lower coping flexibility ($B = .12$, $SE = 0.06$, 95% CI = [.03, .26]), but not significant for the higher coping flexibility ($B = .02$, $SE = 0.03$, 95% CI = [-.01, .10]; see Figure 7). It is important to know, in PROCESS, the index of moderated mediation can be computed to see whether the moderated mediation was significant or not. However, the index of moderated mediation can be only computed when the moderator is a categorical variable for Model 59 (Hayes, 2015). That is to say, it is unknown whether the above simple indirect effects for lower and higher coping flexibility were significantly different from each other or not.

Table 5
Moderated Mediation Analyses for Bicultural Stress, Coping Flexibility, Perceived bicultural competence and Depression

Variable	B	SE B	t	95% CI
<u>Dependent Variable (Y): Perceived bicultural competence</u>				
Constant	.01	.08	0.06	[-.14, .15]
Predictor (X): Bicultural Stress	-.44	.11	-4.12***	[-.64, -.23]
Moderator (W): Coping Flexibility	.37	.19	2.20*	[.01, .74]
Interaction (XW): Bicultural Stress x Coping Flexibility	.22	.25	0.88	[-.27, .71]
<u>Dependent Variable (Y): Depression</u>				
Constant	.66	.04	16.48***	[.58, .73]
Mediator (M): Perceived bicultural competence	-.14	.04	-3.74***	[-.21, -.06]
Predictor (X): Bicultural Stress	.25	.06	4.35***	[.14, .36]
Interaction(MX): Perceived bicultural competence x Coping Flexibility	.20	.08	2.42**	[.04, .37]
Moderator (W): Coping Flexibility	-.22	.10	-2.27*	[-.42, -.03]
Interaction (XW): Bicultural Stress x Coping Flexibility	.24	.14	1.71	[-.04, .51]

Note. N = 214. * $p < .05$. ** $p < .01$. *** $p < .001$

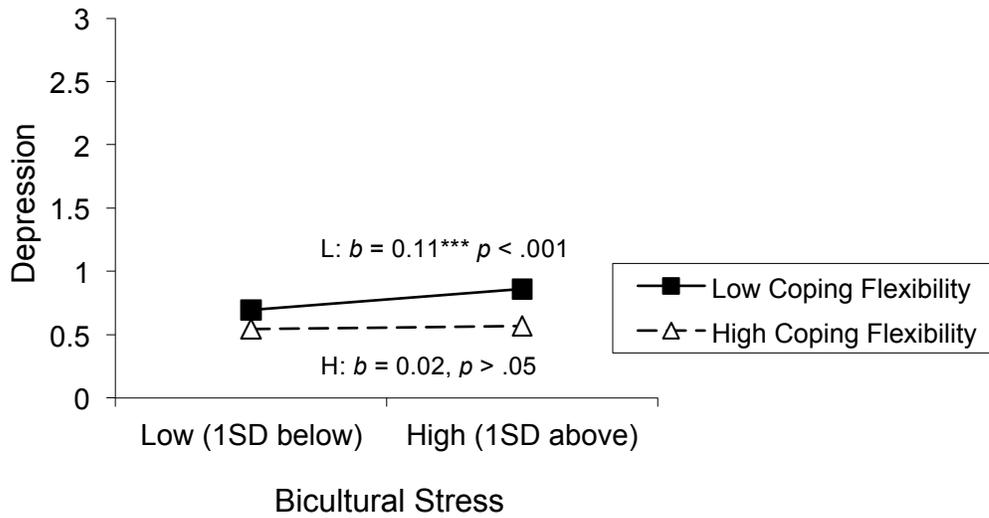


Figure 7. Conditional Indirect Effects of Bicultural Stress through Perceived bicultural competence on Depression at the Lower and Higher Levels of Coping Flexibility.

* $p < .001$. Note: When confidence interval was set to 99%, results in PROCESS also indicated the slope for the indirect effect of bicultural stress to depression through perceived bicultural competence was significant at $p < .001$ for the lower level of coping flexibility.

CHAPTER 5: DISCUSSION

Latina/os students often experience stress from living within a dual existence and managing cultural expectations from both ethnic and dominant mainstream (Romero & Roberts, 2003). The relationships of bicultural stress and perceived bicultural competence on psychological outcomes have been largely understudied in Latina/o students. In addition, researchers have indicated that it is important to take into account cultural context in studying about how Latinos cope with stress (Ojeda & Liang, 2008; Heppner, 2008). The findings of this study expand our understanding of the bicultural experience of Latina/os by addressing the mediation role of perceived bicultural competence in the relationship of bicultural stress and depression. Similarly, the moderating role of coping flexibility on bicultural stress through perceived bicultural competence to depression was examined.

Bicultural Stress as a Mediator

Regarding the mediation hypothesis, as expected, perceived bicultural competence was a significant mediator for the relationship between bicultural stress and depression (see Figure 5). This result indicated that Latina/os students with bicultural stress likely question whether they could navigate both mainstream and their ethnic culture; doubting their sense of perceived bicultural competence was likely related to depression. The mediation role of perceived bicultural competence was congruent with past findings. Carrera and Wei (2014) found that perceived bicultural competence was the mediating mechanism between acculturative family distancing (e.g., distancing from family due to acculturation gaps) and depression in Latina/o college students. In a similar finding, perceived bicultural competence was significantly and negatively linked to depressions (David et al., 2009; Wei et al., 2010).

Although lack of perceived bicultural competence mediated the link between bicultural stress and depression, bicultural stress was also significantly and positively related to depression. For many Latina/os whether or not they decided to have bicultural experiences is not a choice but instead an undeniable expectation. The inability for both cultures to be successfully navigated presents a loss-loss situation and then likely relates to higher levels of depression. This implies that there may be other potential mediators for the association between bicultural stress and depression. In addition, higher perceived bicultural competence was significantly associated with fewer depressive symptoms. The current findings continue to highlight the importance of perceived bicultural competence as potential protective factor for Latina/os navigating their dual cultural worlds.

Coping Flexibility as a Moderator

In terms of moderation hypotheses, coping flexibly was expected to moderate three links (a) between bicultural stress and depression, (b) between perceived bicultural competence and depression, and (c) between bicultural stress and perceived bicultural competence. First, results indicated support for only one of the proposed links. Coping flexibility only significantly moderated the direct link between perceived bicultural competence and depression. The findings were somewhat different than the original hypothesized pattern. For those with lower coping flexibility, it was hypothesized that depression would remain higher regardless of perceived bicultural competence (see Figure 3). However, the current result indicated that, for those with low coping flexibility, depression dropped as perceived bicultural competence increased (see Figure 6). In contrast, for those with high coping flexibility, it was hypothesized that depression would drop when perceived bicultural competence increased (see Figure 3). However, the current results

showed that depression reports remained at the same lower level across different levels of perceived bicultural competences (see Figure 6).

Perhaps, this interaction finding varied from the proposed hypothesis was related to a flooring effect because most of the participants' depression scores were very low. This provided minimal variance for those with high coping flexibility to drop their depression levels as they were already low to begin with. Although the patterns were different, results still supported the added resource capability of coping flexibility as a moderator to combine with perceived bicultural competence. Those with higher coping flexibility reported less depression regardless of the perceived bicultural competence. Similarly, those with lower coping flexibility, depression dropped when they had a higher capacity of perceived bicultural competence. These results supported Olivarri's (2013) findings that bicultural Mexican American college students' flexibility in their roles across cultural situations is crucial for their psychological stance. Both coping flexibility and perceived bicultural competence in a sense may act as resources for Latino/as to have lower depression.

Second, coping flexibility failed to moderate the direct link between bicultural stress and depression. There were some possible reasons. First, one reason for this null finding may have been related to the sample size used in this study. Observations of Table 5 indicated that a trend toward marginal significance is present as the confidence interval [-04, .51] marginally included zero. Therefore, a post hoc analysis using a less conservative confidence level of .90 as a significant level indicated that coping flexibility moderated the relationship between bicultural stress and depression ($B = .24, SE = 0.14, 90\% CI = [.01, .47]$). The post hoc analysis results may have provided some support that the sample size was not large enough to detect significant moderation. Second, another explanation may have been related

to bicultural stress arising from different situational or interpersonal contexts (e.g., family environment or work environment), different life stage (e.g., college life) and different individual development (e.g., young adult). For Latino/a college students, their coping mechanism may be still in the process of developing and adapting in these predominate White universities. Possibly coping flexibility might be protective in longer terms and not easily captures in the present cross-sectional study format.

Third, it may have also been that coping flexibility only helped some aspects of bicultural stress but not bicultural stress as a whole. To address this possibility another post hoc analysis was conducted using the separate bicultural stress subscales. Results found that coping flexibility did not moderate the link between bicultural navigation stress and depression ($B = .12, SE = 0.12, 90\% CI = [-.11, .35]$), but moderated the link between individualistic shift stress and depression ($B = .27, SE = 0.13, 95\% CI = [.01, .54]$). This post hoc analysis also helped unravel one possible reason why bicultural stress did not moderated by coping flexibility as bicultural stress comes from specific experiences. These results supported previous studies' mixed results and indicated that coping flexibility may be only effective for specific groups or experiences (Driscoll & Torres, 2013; Lee & Ahn, 2012). The current results showed that coping flexibility only moderates the association between a specific aspect of bicultural stress (i.e., individualistic shift stress, but not bicultural navigation stress) and depression.

In regards to the last proposed link, coping flexibility did not moderate the relationship between bicultural stress and perceived bicultural competence. This is likely because perceived bicultural competence is a skill set that is developed with time and is not easily to build simply from coping flexibility as it was hypothesized. For example, one

indicator for perceived bicultural competence is to be proficient in both English and Spanish, a high coping flexibility might be a good moderator to boost the perceived bicultural competence in both languages. Another example is that perceived bicultural competence is generated from experience or having knowledge in two cultures and coping flexibility cannot directly promote or hinder that cultural knowledge. Therefore the relationship between bicultural stress and perceived bicultural competence remain the same regardless of the coping mechanism or coping flexibility. Despite the lack of moderation for the link between bicultural stress and perceived bicultural competence, higher coping flexibility in the face of bicultural stress still may keep depression down.

Limitations

There were many limitations to this study despite the significant findings. First, the Latina/os population was comprised of different subgroup ethnicities that could significantly culturally vary in terms of experiences of discrimination and acculturation and the same may have been true for bicultural stress (Finch, Kolody, & Vega, 2000; Perez, Fortuna & Alegria, 2008). Women and Mexican heritage Latinos were the biggest subgroup in this sample and may have not been representative of self-identified Latina/os as a group. The sample was obtained from large public Midwestern universities and cultural difference can emerge from regional diversity. Bicultural stress may be different on location where individual reside (e.g., rural versus urban; Vega, et al., 1998). Caution to generalize the current results to other subgroups of Latina/os or different regions other than Midwestern would be warranted. Second, social desirability was not measured and results may have been skewed based on expectation or managing self-image when reporting bicultural stress or a sense of perceived bicultural competence. Third, participants agreed to participate in this study without

compensation. This may have increased self-selection of students who are more interested in cultural related surveys creating a possible bias in the findings. Students who identified as Latina/os but may not see it as an important part of their experience they may have individuals who decided not participated in this study. The invitation email also indicated that the research was about bicultural experience, thus, those that did not identify with the term “bicultural” might have been less drawn to participation.

Fourth, the original large form scale with 43 items was not used and this may have limited the findings or diluted the potential findings. Although the benefit of having a more usable tool provided a substantial deciding factor for this choice, the limitations are acknowledged. Fifth, perceived bicultural competence measured self-perceived ability and not an actual skill. Thus, an individual may have rated their competence on subjective ideas versus actual skills. This may have been important to distinguish when it comes to language skills and communication. Participants may or may not have Spanish as a bicultural skill and this may be a determining factor in the experience of bicultural stress. Lack of English knowledge and literacy can also significantly increase stress due to academic struggles. These variations of stress may have heightened aspects of bicultural stress in unobserved ways. Finally, this was a cross sectional design, which limited the conclusion on the causal effect. In addition, to fully understand the relationship of bicultural stress on future depression, several variables (e.g., the initial time point [Time 1] for general stress, depression, and perceived bicultural competence) might need to be controlled for in a longitudinal design.

Future Research

There are several possible future research directions. First, future studies should address and explore other moderating factors on the negative impact of bicultural stress on mental health outcomes. For example, minority stress (Wei et al., 2010), acculturative family distancing (Carrera & Wei, 2014) and educational commitment in Latina/os (Botello-Zamarron, 2013) have had a moderated relationship with perceived bicultural competence. Therefore, it is also likely that perceived bicultural competence or different aspects of perceived bicultural competence may be a moderator for the link between bicultural stress and depression. Second, since this study was a cross-sectional study, future studies should include a longitudinal study design to unpack the casual relationships of bicultural stress and perceived bicultural competence. For example, a cross-lagged model can be conducted to examine whether bicultural stress increases a lower sense of perceived bicultural competence or whether perceived bicultural competence decrease bicultural stress.

Third, LaFromboise et al. (1993) and colleagues indicated that those with perceived bicultural competence have a genuine sense of belonging and understanding to both ethnic and mainstream culture without feeling the compromise to one's cultural identity. Future research can also specifically focus on exploring how cultural identity and perceived bicultural competence are related to each other. Torres (2010) indicated that interpersonal difficulties arose when Latino/as choose a bicultural identity and participated in both mainstream and their ethnic culture. Research can further dissect this finding and observe whether bicultural stress explains this interpersonal struggles and how perceived bicultural competence may impact this potential relationship.

Fourth, strengthening our knowledge on the importance of perceived bicultural competence can further support the development of bicultural skills as in Latino/a college students. Up to date, some research has already uncovered the importance of studying the positive impacts of perceived bicultural competence. In a thorough meta-analysis, it was found that biculturalism (i.e., bicultural integration) was linked to better adjustment (Nguyen & Benet- Martinez, 2013). Therefore, another line of research can address how perceived bicultural competence factors relate to bicultural integration. This effort can help us understand the mechanisms and barriers of integrating a more solid bicultural identity. Lastly, we should distinguish what specific types of coping are beneficial for individuals with bicultural stress. Contextual coping as related to cultural specific factors (e.g., informal social support; family support) in dealing with stress has been largely understudied (Heppner, 2008, Chiang, Hunter, & Yeh, 2004). Future work should address culture specific factors and their relationship to mental health while looking for coping mechanisms to alleviate bicultural stress.

Counseling implications

The findings in the study lend themselves to clinical implications. First, it is important to be aware of, recognize and validate the experience of bicultural stress as a potential struggle for Latina/o students. Understanding how bicultural stress is related to mental health (e.g., depression) should be a topic to be addressed in the therapy session with Latina/s students. So far, much more focus has been on the impact of minority stress and acculturative stress (Wei et al., 2010; Torres, 2010; Torres, Driscoll, & Voell, 2012). This focus needs to expand and include addressing bicultural stress. Although, bicultural stress is likely unavoidable in the lives of bicultural Latina/os, learning about its impact on mental

health (e.g., depression) can empower Latina/os clients to come to terms with inevitable aspects and empower them to create opportunities for congruency and support (i.e., support groups, organizations with other bicultural Latino/as) when possible. Past findings have indicated that specific types of coping are related to higher psychological well-being (Gloria et al., 2009). Awareness of bicultural stress can possibly be a way to decrease its link to depression. The Latina/os Bicultural Stress Scale can be potentially used as a psycho-educational preventative tool for early detection and increasing awareness. Providing Latina/o students with this knowledge (e.g., their experiences are related to bicultural stress) can help promote awareness and realization of the validity of their struggles.

Second, it is crucial to understand what tools can be helpful to alleviate depression for Latina/os who experience bicultural stress. The first tool informed by the current results is to help Latino/as students to build their perceived bicultural competence as a way to alleviate depression associated with bicultural stress. The second tool is to help Latina/os clients build their coping flexibility. When these students encounter stress in navigating between the mainstream culture and Latino culture, they can learn to discontinue ineffective coping and/or engage in alternate adaptive coping mechanisms. Encouraging Latino/as students to tailor coping mechanisms to the varying cultural stressors can help them and likely decrease reports of depression.

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