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Immigrant Latino families face numerous acculturative and contextual barriers that make it difficult for them to become activated in their children's mental health treatment (Keyes et al., 2012; Kincheloe, Frates, & Brown, 2007). Few studies have addressed this issue in the literature, typically assessing the impact of barriers from variable-centered approaches that fail to capture the complex impact these that barriers can have on Latino families (Stein & Guzman, 2015). This dissertation extends the current literature by using a person-centered approach (i.e., Latent Class Analysis) to explore how varying levels of acculturative (i.e., English-language acculturation and ethnic social preference) and contextual (i.e., family income, caregiver hours worked per week) factors differentially predicted baseline levels of treatment activation in a sample of immigrant Latino caregivers prior a brief activation intervention. Exploratory analyses were then conducted to test for the specific impacts of English-language acculturation and session attendance on response to the intervention. Results indicated that caregivers displaying low acculturation and low SES endorsed the lowest levels of baseline treatment activation. Both caregivers reporting no and 'some English-language acculturation' displayed significant intervention gains over control participants at 1-month, but only 'no-English-language acculturation' caregivers displayed significant gains over control at 3 months. Session-attendance levels, however, did not differentiate

response to the intervention. Results are discussed in from a social decision theory framework to provide clinical implications and recommendations for future research.

THE IMPACT OF ACCULTURATIVE AND CONTEXTUAL FACTORS AND
SESSION ATTENDANCE ON LATINO CAREGIVER RESPONSE
TO A BRIEF TREATMENT ACTIVATION INTERVENTION

by

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CHAPTER I

INTRODUCTION AND REVIEW OF LITERATURE

Introduction

Research has consistently shown that Latinos seek out mental health services at markedly lower rates and exhibit higher rates of premature termination in comparison to their non-Latino white counterparts (Alegría, Canino, et al., 2008). The issue has only become more pressing as Latinos currently represent 17.4% of the total population in the U.S., a figure that has continued to grow every year since 1970 (Krogstad & Lopez, 2015). As a result of these trends, a large push has emerged within the field to attempt to reduce treatment barriers and begin bridging the current treatment disparity gap among Latino families.

Efforts to address the treatment utilization gap have emerged concurrently with public health initiatives calling for a more collaborative healthcare experience in which clients take a leading role in managing their care (Menichetti, Libreri, Lozza, & Graffigna, 2016). Since 2002, major healthcare initiatives and organizations have stressed the importance of increasing clients' treatment activation, which is defined as their ability to acquire the necessary knowledge, skills, and attitudes to be able to become active participants in their care (Alegría et al., 2014; Menichetti et al., 2016; Mittler, Martsolf, Telenko, & Scanlon, 2013). Transporting this mandate for collaborative healthcare to Latino populations, however, has proven to be challenging.

Research on treatment disparities often points to contextual and acculturative barriers as deterrents to Latino clients' ability to become active participants in their mental health care (Alegría et al., 2014; Cabassa, Lester, & Zayas, 2007; Santiago-Rivera et al., 2011). Nonetheless, intervention efforts have shown that treatment activation can be increased among Latino populations (e.g., Alegría et al., 2014; Des Jardins et al., 2015). Previous efforts, however, have largely employed variable-centered approaches to understanding the impact of contextual and acculturative factors, which have obscured the complexity of how these factors interact to impact Latino treatment activation (Castro et al., 2006). Furthermore, research in this area has largely focused on the individual adult populations, such that very little is known about how these processes play out among Latino caregivers¹ seeking treatment for their children.

In order to help fill this gap in the literature, this dissertation uses a theoretically grounded approach to understanding how acculturative and contextual factors impact Latino caregiver's ability to become activated in their children's mental health treatment. Whereas I remain cognizant of the fact that the child also plays a critical role in treatment, an exhaustive discussion of how child-related factors may affect caregiver treatment activation falls beyond the scope of this dissertation, which remains solely focused on understanding how acculturative and contextual factors shape Latino caregivers' treatment activation.

¹ For the purposes of this document, the term caregiver signifies the individual within a family unit who is primarily responsible for the care, protection, and transportation of the child receiving mental health treatment.

Review of Literature

I begin by reviewing the recent shift within public health towards a more participatory healthcare experience in which clients take a leading role in managing their treatment. Within this discussion I define and differentiate key terms that have emerged in this discussion—namely patient activation and treatment engagement—while highlighting how recent efforts aimed at increasing our understanding of these constructs have fared within Latino populations. I then discuss social decision-making theory, exploring how acculturative and contextual influences may come to impact Latino caregivers' ability to become activated in their children's mental health care. Based upon prior research, I provide rationale for the types of caregiver acculturative and contextual profiles that may be expected and how these profiles may impact initial levels of activation. In addition to the latent profile analysis, this dissertation tests for whether English-language acculturation and session attendance significantly impact Latino caregivers' response to of a brief treatment activation intervention.

Increasing Client Participation in Healthcare

In 2002, the World Health Organization's report called on the international healthcare community to move towards delivering cost-effective care by initiating treatment provisions affording clients greater agency in managing their care (Menichetti et al., 2016). This call to arms for client-centered healthcare has since been echoed by the National Health Services in the UK, and most recently by the Affordable Care Act in the United States, among others (Barello, Graffigna, & Vegni, 2012; Department of Health and Human Services [DHHS], 2012; Mittler et al., 2013). These initiatives have been

guided by research showing that increased client involvement in care is associated with increased adherence, increased ability to self-manage, improved functioning, and improved treatment outcomes (Alegría et al., 2014; Hibbard, Greene, Shi, Mittler, & Scanlon, 2015).

As the healthcare community has taken notice of the value of increased client involvement in care, interest in the underlying mechanisms driving this involvement has also grown. In their review of the literature surrounding patient-centered care, Menichetti and colleagues (2016) document a shift in the literature away from constructs indicative of a prescriptive healthcare relationship in which clients are passive recipients of care (e.g., patient adherence, patient compliance) to terms connoting a more collaborative and active relationship between clients and their providers (e.g., patient participation, patient engagement, patient empowerment). Research into this new area, however, has not always been carried out in a uniform manner, such that there is presently little consensus surrounding key concepts and constructs (Barello et al., 2012). Among the terms identified by the aforementioned review, patient activation and patient engagement have received the greatest attention among recent research efforts (Menichetti et al., 2016). Activation and engagement, however, have often been used interchangeably in the literature, which has resulted in a slowing of the progress on our understanding of each construct (Grande, Faber, Durand, Thompson, & Elwyn, 2014).

Treatment Activation and Treatment Engagement

In an attempt to achieve some degree of clarity around the constructs of treatment activation and engagement, Mittler and colleagues (2013) synthesize the literature to

define and differentiate the terms. The authors posit that engagement in healthcare generally comprises two primary dimensions. The first, generally regarded as ‘patient activation,’ indicates the degree to which individuals possess the capacity, knowledge, and willingness to manage their healthcare (Hibbard, Stockard, Mahoney, & Tusler, 2004). The second dimension of engagement consists of ‘engaged behaviors’ that manifest as a result of a client’s level of activation. The latter can include behaviors such as the enactment of treatment recommendations, healthy lifestyle changes, self-management, and self-advocacy within the healthcare setting (Mittler et al., 2013).

Conceptual frameworks surrounding treatment activation and engagement typically point to the primacy of treatment activation, indicating that it is critical for clients to first develop the requisite knowledge, beliefs, and capacities necessary to enact the aforementioned engaged behaviors (Chen, Mortensen, & Bloodworth, 2014; Mittler et al., 2013). This line of thought is consistent with Hibbard and colleagues’ (2004) 4-stage theory of treatment activation development. This theory posits that in the first two stages, individuals generally develop their belief in the importance of patient self-advocacy as well as the confidence and knowledge necessary to act upon those beliefs. Stages 3 and 4 involve the enactment and maintenance of treatment furthering behaviors, respectively, which are marked by both the internalization of treatment recommendations and the client’s development of resilience in the face of lifestyle changes and stressors.

In light of aforementioned theory surrounding the overarching construct of treatment engagement, Stages 1 and 2 appear to be most closely aligned with Mittler and colleagues’ (2013) ‘treatment activation’ highlighting the attitudinal readiness to become

involved in treatment, whereas Stages 3 and 4 are more closely aligned with the construct of ‘engaged behaviors’ that act as evidence for the establishment of this attitudinal readiness. Given its theoretical primacy, it is important for researchers to understand which factors enable or prevent caregivers from developing the requisite knowledge and beliefs necessary to progress through the early stages of treatment activation development. The aforementioned frameworks also point to the fact that the development of treatment activation does not take place within a vacuum, as contextual factors associated with individuals’ lives can have important facilitative or impeding effects on their ability to become activated in treatment (Chen et al., 2014; Mittler et al., 2013). Included among these contextual factors are sociodemographic factors (e.g., SES, social capital) as well as group/community-based values, norms, and beliefs. Whereas the influence of the former set of factors tends to be more stable, the influence of the latter can be more dynamic, such that their degree of influence depends on the extent to which the individual identifies with their group (Mittler et al., 2013).

In line with previous authors (Mittler et al., 2013; Hibbard et al., 2004) who point to the primacy of treatment activation as a critical underlying mechanism of treatment engagement, this dissertation will remain focused on gaining a better understanding of factors impacting Latino caregiver’s *treatment activation* in their children’s mental health treatment.

Caregiver Activation in Mental Health Treatment

Recent meta-analyses highlight the critical role caregivers play in child therapy. Not only are caregivers responsible for navigating basic logistical issues (e.g.,

transportation, finances, legal consent for treatment) (Nock & Ferriter, 2005), but they also have an important role to play in terms of treatment adherence. Despite the child's behavior typically being the therapeutic target, many treatment modalities seek to address these issues through modifications of parenting behaviors (e.g., Parent Child Interaction Therapy [PCIT]) for which parental activation in treatment is critical (Nock & Ferriter, 2005). However, in instances where therapeutic modalities place lower demands on caregivers' participation, caregivers can still play an important role in determining treatment outcomes by modeling and encouraging child treatment adherence during and in between therapy sessions (Clarke et al., 2015). Indeed, there is overwhelming evidence in the 'general population' literature showing that when caregivers become involved in their children's treatment outcomes dramatically improve (Nock & Ferriter, 2005; Patterson & Chamberlain, 1994).

Research also indicates that caregivers can experience several barriers to becoming activated in their children's mental health treatment (Nock & Ferriter, 2005). Kazdin, Holland, and Crowley (1997) conceptualize the impact of these barriers in their barriers-to-treatment model, which proposes that families typically face multiple barriers to becoming active participants in their children's treatment and that as these barriers increase so does the risk of treatment dropout. These barriers typically consist of both practical obstacles to treatment participation (e.g., finances, insurance, transportation) and attitudinal barriers related to caregiver's unfavorable views towards treatment demands, the perceived relevance of the treatment, or their perception of poor therapeutic alliance with the therapist. The attitudinal components of this theory are echoed by earlier work

by Morrissey-Kane and Prinz (1999) highlighting the importance of caregiver attributions, affect, and expectations regarding their children's mental health issue and treatment and their impact on caregiver's motivation to participate in treatment.

To date, research on barriers to caregiver activation has predominantly focused on 'general populations,' with only a handful of studies assessing how treatments adapted to mitigate the impact of the aforementioned barriers can produce increased activation among Latino caregivers (e.g., Kim, Lau, & Chorpita, 2015; Prado et al., 2013). Despite the success of these adaptations, our understanding of *how* acculturative and contextual factors influence Latino caregiver treatment activation specifically remains understudied. Furthermore, to my knowledge, no prior research has analyzed the impact of acculturative and contextual factors on an intervention specifically designed to increase Latino caregiver treatment activation in their children's mental health treatment. In an effort to provide sound theoretical grounding for this dissertation's novel contribution to the literature, below I present the theory of planned behavior and discuss how it may shed light on the treatment activation gap experienced by Latino caregivers.

Theory of Planned Behavior

The theory of planned behavior (TOPB) proposes that behavioral decisions are based on attitudes and beliefs towards a situation (Ajzen, 2012), with individuals generally making three primary considerations when deciding to engage in a behavior. First, individuals consider their *behavioral beliefs* about the likely outcomes of performing a behavior and the subjective value that they place on said outcomes in terms of personal importance. When making behavioral decisions, individuals are seen to hold

several behavioral beliefs at once, with each belief being linked to its own behavioral outcome and corresponding subjective importance value. These multiple behavioral beliefs then become aggregated in the individual's mind to produce a favorable or unfavorable attitude towards the target behavior.

Second, individuals consider what they believe to be the *normative beliefs* encompassing the expectations of important referents in their life (i.e., majority opinions) and their own motivations to comply with or diverge from these expectations. Normative expectations and the individual's willingness to comply with them combine to generate the level of social pressure placed upon the individual to either perform or not perform the target behavior.

Third, individuals' *perception of barriers* considers their beliefs regarding the presence of barriers and whether or not these barriers will impede the performance of the behavior. The degree to which individuals perceive these barriers as manageable determines the amount of perceived behavioral control that they have over their actions. In the end, these three primary considerations become aggregated within the individual to determine *behavioral intentions* (Ajzen, 2012). Under the tenets of the TOPB, *behavioral beliefs* and *behavioral intentions* are regarded as the immediate antecedents of behavior.

Although the TOPB has not been used in conjunction with the aforementioned theory of activation development (Hibbard et al., 2004) in the past, I propose that the TOPB can provide a viable framework for understanding how acculturative and contextual factors impact Latino caregiver's attitudes towards mental health treatment and their subsequent ability to develop higher levels of treatment activation. Overall, I

posit that the three considerations outlined by the TOPB (i.e., behavioral beliefs, normative beliefs, perception of barriers) are well poised to capture the mixture of acculturative (e.g., stigma, cultural values, beliefs about mental health etiology and treatment) and contextual (e.g., low SES, lack of familiarity with English/the mental health system) factors affecting Latino caregiver's attitudes towards treatment activation. Below, I discuss research surrounding Latino attitudes towards mental health treatment to further illustrate how the TOPB may be applicable to this population.

Latino Caregiver Attitudes towards Mental Health and the TOPB

In terms of behavioral beliefs, research has shown that as a result of collectivistic worldviews and certain Latino cultural values, Latino caregivers may hold divergent views regarding mental health etiology and treatment (Cabassa et al., 2007; Vargas et al., 2015). These views are often cited as explanations for why Latino caregivers may possess low behavioral beliefs regarding the viability of becoming activated in their child's treatment despite placing the highest subjective importance value on their child's health (Berdahl & Torres Stone, 2009). In fact, perhaps as a result of how much caregivers value their child's improvement, they may be motivated to seek out treatment from more familiar entities (e.g., religious/community resources) that they believe offer more viable alternatives for improving their child's mental health (Caplan & Whittemore, 2013; Carneiro, 2013).

The normative beliefs of important referents have also been shown to play an important role in shaping Latino caregivers' views towards mental health treatment (Cabassa et al., 2007). If mental health treatment is not regarded in a positive light within

a caregiver's Latino community, caregivers who find themselves deeply enmeshed within their community may feel a great deal of social pressure to conform to community opinion and may be deterred from becoming activated in treatment. Indeed, social stigma and the fear of becoming ostracized from supportive immigrant communities have been cited in the past among Latinos as a primary reason for not seeking out mental health treatment (Interian, Martinez, Guarnaccia, Vega, & Escobar, 2007). Normative beliefs can even impact Latino caregivers within the therapeutic domain through cultural values that make it difficult for caregivers to advocate for their children. For example, as a result of values such as *respeto* and *personalismo*, which place great value on the maintenance of harmonious relationships and deference to 'sociocultural superiors' (e.g., elders, doctors, etc.), Latino caregivers who disagree with the practitioners' proposed treatment or conceptualization of their child's mental health issue may not openly voice these opinions during therapy and instead quietly disengage from treatment (Bermúdez, Kirkpatrick, Hecker, & Torres-Robles, 2010; Cortes, Mulvaney-Day, Fortuna, Reinfeld, & Alegría, 2009).

Finally, as a result of their status as an immigrant ethnic minority, Latino caregivers seeking mental health treatment for their children are likely to perceive many barriers to treatment activation stemming from social position variables. Studies have shown that as a result of the combination of social position factors associated with low SES (e.g., low family income, limited caregiver availability, caregiver stress and mental health) Latino families tend to underutilize mental health services in comparison to non-Latino families (Bledsoe, 2008). Beyond social position factors, Latino families who

possess low English-language acculturation and are unfamiliar with western mental health services may be daunted by the prospect of seeking mental health treatment for their children (Cortes et al., 2009).

The aforementioned research suggests that a mixture of practical and attitudinal barriers stemming from contextual and acculturative factors can coalesce to limit Latino caregivers' treatment activation. In light of the aforementioned models of caregiver treatment activation and the TOPB, it is conceivable why Latino caregivers have been shown in the literature to possess lower initial levels of treatment activation in comparison to their non-Latino counterparts (Castro et al., 2006). Below, I discuss extant research on acculturative (i.e., English-language acculturation, ethnic social preference, and media preference) and contextual (i.e., family income, caregiver hours worked per week) factors to further illustrate how they may come to impact Latino caregivers' attitudes, beliefs, and behaviors towards the prospect of becoming activated in their children's mental health treatment.

Acculturative Factors: English-Language Acculturation, Ethnic-Social Preference, Media Preference

English-language acculturation—a term which has been used in the literature to denote the linguistic aspect of acculturation, consisting of both language preference and use (Marin, Sabogal, Marin, Otero-Sabogal, & Perez-Stable, 1987; Salamonson, Everett, Koch, Andrew, & Davidson, 2008)—has been cited as a critical factor in determining Latinos' ability to become activated in mental health treatment (Bauer, Chen, & Alegría, 2010; Wallace, Pomery, Latimer, Martinez, & Salovey, 2010). As members of an immigrant ethnic minority, Latino caregivers may not be aware of available mental health

resources and are likely to be unfamiliar with the US mental health system (Umpierre et al., 2015). Models of health services behavior suggest that as immigrant Latinos acculturate and begin to interact with members of the host-culture, they will receive information about available mental health resources and gain knowledge about how to access them (Berry, Kim, & Boski, 1988; Schwartz & Zamboanga, 2008). As such, English-language acculturation becomes critical in determining whether Latino caregivers' will be able to interact sufficiently with mental health professionals and members of the host culture in order to gain the knowledge necessary to become activated in the U.S. mental health system (Keyes et al., 2012).

English-language acculturation is associated with lower rates of mental health treatment utilization and activation. For example, in a longitudinal study of a nationally representative sample of Asian and Latino adults' health seeking behaviors, Bauer and colleagues (2010) found that Latinos with limited English-language proficiency accessed fewer health services for mental disorders in their lifetime and lived with untreated disorders for significantly longer than their English-proficient counterparts. Similarly, in a study of U.S.- and foreign-born Latinos, Alegría, Sribney, Perez, Laderman, and Keefe (2009) found that participants who displayed a preference for completing the study measures in Spanish displayed significantly lower means of activation at the outset of treatment, with bilingual individuals displaying the highest levels of activation.

Even if Latino caregivers are able to gain access to mental health services, lower English-language acculturation can still impact treatment activation by limiting their ability to develop a strong therapeutic relationship with their mental health provider,

thereby limiting their ability to gain the necessary knowledge and beliefs surrounding treatment in order to develop higher levels of treatment activation (Añez, Paris, Bedregal, Davidson, & Grilo, 2005). Indeed, many Latino caregivers worry that they will not be able to effectively communicate their child's needs to providers in order to receive the appropriate care (Lê Cook, Brown, Loder, & Wissow, 2014; Valdez, Mills, Bohlig, & Kaplan, 2013). In sum, as a result of their limited ability to communicate with providers and members of the host culture, low English-language acculturation caregivers will likely perceive increased barriers to their ability to become activated in their children's treatment.

Ethnic social preference—defined as the preference for interaction with individuals of certain ethnicities—has also been cited in the literature as an important factor impacting Latino treatment activation (Wallace et al., 2010). Ethnic social preference has often been cited in the literature as a reference point for cultural attachment (Vega & Gil, 1998; Wallace et al., 2010), whereby increased interactions with individuals from one's own culture results in greater opportunities for socialization to Latino culture and its values (Allen et al., 2008; Keyes et al., 2012). Similarly, media language preference appears to also play an important role in ethnic socialization. In comparison to English-language media, Spanish-language media typically covers issues that are more germane to the socioeconomic realities of Latinos living in the US and uses Latin-American-based content that serve as anchors to the home nation (Rios & Gaines, 1998). Greater levels of Spanish-language media use have been associated with increased

Latino ethnic identity and promotion of group consciousness with other Latinos living in the United States (Kerevel, 2011; Subervi-Velez, 1986).

An individual's cultural orientation and its accompanying values have been shown to display a strong link with the enactment of treatment related behaviors, and research shows that this is especially true in the case of values that represent traditional tenets (Bardi & Schwartz, 2003; Daniel, Bilgin, Brezina, Strhmeier, & Vainre, 2015). In fact, several help-seeking models contend that culture is inextricably linked to Latinos' motivation to become activated in treatment (Cauce et al., 2002; Eiraldi, Mazzuca, Clarke, & Power, 2006; Guo, Nguyen, Weiss, Ngo, & Lau, 2015). As previously stated, Latino collectivistic worldviews and beliefs towards mental health etiology and treatment often tend to be at odds with western mental health models of care (Méndez & Cole, 2014; Weisman, 2005). It is therefore likely that Latino caregivers who engage in ethnic homophily, be it through social preference, media preference, or both, will be more likely to become socialized to Latino heritage culture and go on to possess negative views towards mental health that will make it difficult for them to become activated in treatment. Indeed, Keyes and colleagues (2012) found that individuals who displayed Latino ethnic identity and an exclusively Latino ethnic-social preference utilized mental health services at significantly lower rates over their lifetime in comparison to individuals who reported at least some ethnic social relations outside of Latinos. Furthermore, as caregivers become more enmeshed within their Latino ethnic enclaves, they will likely experience increased social pressure to comply with normative beliefs of important referents within their community that hold negative views towards mental health

treatment. Indeed, past research has found that ethnic identity can moderate the impact of stigma on Latino caregivers' help-seeking attitudes for their children's mental health needs (Turner, Jensen-Doss, & Heffer, 2015).

Contextual Factors: Low Family Income, Hours Worked Per Week

Latino families are also over-represented in terms of lower socioeconomic status (SES), with the national percentage of Latinos below the poverty line in the United States falling at 24%, in comparison to 10% of Whites (Kaiser Family Foundation, 2014). Low family income has been shown to impact Latino families seeking mental health treatment in a multifaceted manner, generating both instrumental/practical and psychological/attitudinal barriers to treatment activation that have resulted in low SES being identified as a primary contributor to treatment underutilization among Latinos (Bledsoe, 2008).

In terms of instrumental/practical barriers, low family income can severely impact a family's ability to attend treatment through limited resources in terms of time, finances, and social capital (i.e., childcare, transportation) (Valdez, Dvorscek, Budge, & Esmond, 2011). In a study of retention patterns in a family-based intervention for Latinos, Coatsworth, Duncan, Pantin, and Szapocznik (2006) found that, among sociodemographic variables, caregivers who attended the intervention regularly reported higher levels of family income in comparison to non-attenders. Low-income families are also less likely to be insured, which can generate an additional barrier in terms of the perceived affordability of mental health care (Hibbard et al., 2008). The perceived costs of mental health care and lack of insurance coverage can generate attitudinal barriers to

treatment seeking, as Latinos often cite the anticipated costs of mental health services as a primary deterrent to seeking mental health care (Alegría et al., 2012; Valdez et al., 2011). Caregivers in low-income Latino families also tend to have lower educational attainment, which is associated with lower mental health literacy and underutilization of services (Sanders, Thompson, & Wilkinson, 2007). Therefore, low family income appears to be a multifaceted contextual risk factor that can act as an indicator of multiple barriers to Latino caregiver treatment activation.

Immigrant Latino caregivers are also more likely to work long weekly hours at low-wage jobs in order to support their families in comparison to their non-Latino counterparts (Beutell & Schneer, 2014). These occupations can often include demanding physical work and irregular schedules (e.g., construction, factory work) that can deprive caregivers of the availability and energy necessary to become activated in their children's mental health care (Valente & Berry, 2016). For example, in a large multiethnic sample of low-income children below 18 years of age in California, Kincheloe et al. (2007) found that, among sociodemographic factors, caregivers who worked on average for longer than 40 hours per week were significantly less likely to enroll their children in state and national insurance programs. Research among Latino populations specifically also finds that longer weekly work hours can generate increased stress, increased depression, and can limit the time that Latino caregivers are able to devote to their families (Sliwa, Must, Perea, & Economos, 2014; Valente & Berry, 2016). Long working hours may be particularly disruptive among immigrant Latino caregivers who are likely to endorse strong familistic values (e.g., familial unity, reciprocity, and support)

(Calzada, 2010) and therefore will experience greater levels of distress as a result of their inability to fulfill their responsibilities to their families (Valente & Berry, 2016).

In summary, the literature on contextual barriers to caregiver treatment activation suggests that low family income and long weekly work hours are indicative of multifaceted contextual risk factors that are likely to engender increased perceptions of barriers resulting in lower initial levels of treatment activation. However, the literature has also identified several protective factors found within immigrant Latino populations that promote resilience in the face of these contextual risks. I discuss some of the protective factors relevant to treatment activation below in further detail and describe how intervention efforts have incorporated them to generate improved results among Latino populations.

Latino Cultural Protective Factors

Despite the aforementioned acculturative and contextual barriers to Latino caregivers' treatment activation, immigrant Latino families have also been found to possess several protective factors that can buffer against their negative impacts on treatment activation. For example, Latino heritage cultural values like familism, *simpatia*, *respeto*, and *confianza* are known to promote family unity as well as reciprocal and supportive interactions among family members—practices which have been shown to help Latino families in overcoming acculturative challenges (Calzada, Fernandez, & Cortez, 2010; Méndez & Cole, 2014; Stein, Gonzalez, Cupito, Kiang, & Supple, 2015). Immigrant Latino families are also known to possess increased resilience in the face of contextual risk as a result of a phenomenon called the 'immigrant paradox' by which

immigrant families display better outcomes than second or third generation families due to increased levels of optimism and drive following immigration (Alegría, Canino, et al., 2008). Explorations of mediators that may be driving the immigrant paradox point to several resilience factors among immigrant Latinos, including increased optimism upon arrival to the US, stronger maintenance of protective heritage-cultural values, and an immigrant optic that can frame potentially aversive situations associated with low-SES as obstacles that can be overcome or that may actually represent improvements on life prior to immigration (Marks, Ejesei, & García Coll, 2014).

In recent years, some intervention efforts have taken advantage of these cultural strengths to generate improved responses among Latino populations. I discuss some notable examples below in further detail to illustrate how capitalizing on these protective factors through active intervention efforts may impact Latino caregivers' behavioral considerations when deciding to become activated in their children's mental health treatment.

Culturally-Adapted Intervention Efforts

The literature on mental health interventions has consistently shown that when interventions are adapted to capitalize on the aforementioned protective factors they can have a dramatic impact on caregivers' response to treatment (e.g., Carpentier et al., 2007; Lakes et al., 2009; Gonzales et al., 2012). Furthermore, these studies also show that likely as a result of having more to gain in comparison to their more acculturated/higher-SES counterparts, low-acculturation/SES Latinos often display a stronger response to intervention efforts.

Despite the success of these intervention efforts, only a handful of studies have tested the effectiveness of interventions targeting Latino treatment attitudes towards mental health treatment specifically (e.g., Alegría, Polo, et al., 2008; Cabassa, Molina, & Baron, 2012; Dueweke & Bridges, 2017; Hernandez & Organista, 2013; López et al., 2009). A majority of these efforts, however, have involved passive psychoeducational approaches (e.g., Cabassa et al., 2012; Dueweke & Bridges, 2017; Hernandez & Organista, 2013; López et al., 2009), which simply constitute disseminating culturally-adapted psychoeducational materials without requiring any active participation from recipients. Whereas these approaches have generated significant increases in literacy about mental health pathology, results indicated that they fell short of generating significant positive changes in attitudes towards mental health stigma and treatment-seeking.

These results suggest that an active intervention approach (i.e., requiring that participants actively engage with the psychoeducational materials through homework assignments, skill building, group discussion, etc.) is likely necessary to significantly modify Latinos' entrenched views towards mental health. To my knowledge, Alegría, Polo, and colleagues' (2008) The Right Question Project-Mental Health (RQP-MH) represents the only active intervention effort to have specifically targeted Latino treatment activation. The intervention consisted of three 30-minute individual sessions involving coaching and teaching of empowerment strategies surrounding the individual's role in treatment, as well as discussions of hypothetical scenarios to aid participants in identifying issues within treatment and increasing communication with providers to

uncover shared solutions. Notably, the intervention incorporated discussions of cultural values (e.g., *simpatia*, *respeto*) that could impact participants' experiences as they take a more active role in their care. Quantitative and qualitative follow-ups indicated that participants experienced an increase in their activation as a result of the intervention, with participants stating that many of their attitudinal concerns regarding their ability to participate in treatment (e.g., language limitations, unfamiliarity with the mental health system, or discomfort at voicing concerns to practitioners) were addressed through the intervention's strategies (Cortes et al., 2009).

Besides lending support to the potential that active intervention approaches possess for significantly modifying entrenched negative beliefs towards mental health treatment among Latinos, it is also notable that Alegría, Polo, and colleagues (2008) were able to generate significant shifts in participants' attitudes with only three 30-minute individual sessions. Nonetheless, as this study represents the only active intervention effort to date to address the issue of treatment activation among Latinos, clearly more research is needed to provide corroborating evidence for the viability of using active activation interventions with Latino populations. Questions remain surrounding what is the ideal number of intervention sessions necessary to generate significant improvements in activation, or whether individual vs. group-based interventions would result in larger activation increases. Considering the premises of social learning theory (Bandura, 1986), it may be particularly impactful for Latino caregivers with low levels of treatment activation to hear other Latino caregivers of similar acculturative and contextual positions in life espousing positive views towards mental health. Due to the level of familiarity

ascribed to these individuals in terms of all aspects save for their outlook towards mental health, discussions in a group-based activation intervention may play an important role in shifting what are regarded as the ‘normative beliefs of important referents.’ In light of these looming questions and limited research in this area, this dissertation sought to extend the literature by also testing for whether session attendance impacted Latino caregivers’ response to a 4-session group-based treatment activation intervention.

In summary, the extant literature presents a consistent picture in which acculturative (i.e., low English-language acculturation, exclusively Latino media and ethnic-social preferences) and contextual factors associated with low-SES (i.e., low income, high weekly work hours) are likely to result in the highest levels of risk in terms of Latino caregivers’ outlook towards mental health treatment. The literature also appears to suggest, however, that by virtue of having more room to grow in terms of their knowledge and familiarity with mental health treatment, immigrant Latino caregivers will likely experience the largest gains from intervention efforts that have been culturally adapted to address the impact of these risk factors. However, due to limited research on treatment activation among Latino caregiver populations, several questions remain that this dissertation sought to explore through an analysis of Latino caregivers’ response to a treatment activation intervention. I describe the intervention, MEPREPA, in detail below and to indicate how it seeks to increase caregiver activation by capitalizing upon Latino family protective factors and addressing the attitudinal and behavioral considerations outlined by the TOPB.

Caregiver Activation Intervention: MEPREPA

These positive findings led to the creation of the Latino caregiver activation intervention that this dissertation focused on. MEPREPA (*Metas; Preguntar; Explicar, Escuchar, Entender; Preguntar para aclarar*/Goals; Questioning; Explaining, Listening, Understanding; Questioning to clarify), which is short for “*Me preparo*/I prepare myself,” comprises four 60-minute group therapy sessions aimed at addressing barriers typically encountered by Latino caregivers in their attempts to become activated in their children’s mental health care. As described in Figure 1, MEPREPA is hypothesized to address the tenets of the TOPB to increase Latino caregivers’ attitudinal beliefs and behavioral intentions towards becoming activated in their child’s mental health care.

First, MEPREPA addresses the issue of *behavioral beliefs* surrounding the viability of treatment by providing psychoeducation about diagnoses, providers, and available treatments. Psychoeducation is achieved both through direct provision of information by intervention facilitators and through group member discussions of past experiences seeking mental health services. Behavioral beliefs are also increased through the intervention’s primary activation skill, which teaches caregivers how to prepare and carry out effective conversations with their children, providers, and school personnel in order to advocate for services and manage their children’s treatment. This strategy is introduced during the second session and reinforced further in sessions three and four through discussions of how to use MEPREPA to navigate issues of self-advocacy within the mental health and school contexts.

Second, the *normative beliefs* of important referents are addressed through discussions of culturally-based barriers to seeking services and communicating with providers and school personnel (e.g., stigma, *respeto*, *machismo*). MEPREPA addresses referents' views through discussions within the group of past experiences of stigma emanating from family and community members. This process serves to both normalize the experiences of stigma for individuals as well as provide examples of strategies used by other group members to overcome stigma for the benefit of their children's wellbeing. Furthermore, hearing from fellow Latino caregivers' who possess a positive outlook towards mental health might help in shifting what are regarded as normative beliefs. Also, the potentially limiting effect of cultural values such as *respeto* and *personalismo*, which may preclude caregivers from advocating for their children's wellbeing, are addressed via the intervention skill that teaches questioning strategies and empowers caregivers to communicate effectively with providers and school personnel.

Finally, perceptions of barriers are addressed through discussions surrounding the importance of recognizing barriers and seeking out appropriate resources to help mitigate their negative effects. As is the case with the attitudes of important referents, barriers are normalized and strategies for overcoming them are developed via group discussion. Furthermore, the activation skill seeks to teach caregivers how to communicate effectively with appropriate entities (e.g., family, friends, providers, schools) in order to garner support and find solutions that help lower their perceptions of barriers to becoming activated in their child's treatment. Finally, barriers are also addressed through

psychoeducation about available services and caregivers' rights within different mental health and school contexts.

By addressing attitudes and behavioral beliefs that may prevent less activated caregivers from becoming fully involved in their children's treatment, MEPREPA seeks to instill in caregivers the belief that their role as client advocates is important (i.e., Stage 1) as well as provide them with the necessary confidence and knowledge to take action (Stage 2) in order to be able to move on to the latter stages of activation (Stages 3 and 4) via increased treatment participation, internalization of recommendations, and by developing skill maintenance behaviors (Hibbard et al., 2004).

Primary analyses of the intervention have shown it to be successful in increasing caregivers' post-intervention treatment activation levels, with the original effectiveness trial of MEPREPA showing that caregivers in the treatment group experienced significantly greater improvements over control group individuals in treatment activation from baseline levels at both 1-month and 3-month follow-ups (Thomas et al., 2017), controlling for the child being novice to therapy. This dissertation sought to take the next step in further understanding how variability among caregivers' acculturative and contextual profiles impacted initial levels of activation as well by testing how English-language acculturation and session attendance differentially shaped caregivers' response to the intervention.

Person-centered vs. Variable-centered Approaches

It is evident from the aforementioned literature that the effects of acculturative and contextual factors on Latino caregiver treatment activation are complex and

interrelated. Indeed, it is the *combination* of these factors that truly captures the risk posed by acculturative and contextual barriers. As such, this dissertation sought to examine the impact of acculturative and contextual factors as taking place in a cumulative manner, with factors interacting and potentially exacerbating their detrimental impact on Latino caregiver treatment activation (Hinojosa, Knapp, & Woodworth, 2015).

Past research, however, has not always studied these factors in an integrative manner. Instead, research has often studied acculturative and contextual factors in isolation through variable-centered approaches (Bledsoe, 2008), which presume that variables will have homogenous effects across individuals in spite of potentially salient individual differences (Mutz & Seeling, 2010). More recently, however, research has suggested that employing person-centered approaches, such as latent class analysis, to the study of acculturative and contextual factors in Latino populations may yield more nuanced and informative results (Coatsworth et al., 2006; Prado et al., 2013). For example, Fox, Merz, Solórzano, and Roesch (2013) showed that latent profile analysis represents a viable person-centered approach to parsimoniously model Berry's (1997) orthogonal model of acculturation in a sample of Latino college students. In regards to utilizing a latent profile analysis, Prado and colleagues (2013) found that an intervention aimed at reducing adolescent externalizing and substance use behaviors was effective for Latino families displaying high eco-developmental risk profiles (i.e., low parental involvement, negative parenting, poor parent-adolescent communication, lack of family support), but not for those who displayed moderate or low eco-developmental risk profiles.

These research examples highlight the viability and the importance of analyzing cultural and contextual factors from a person-centered approach. A person-centered approach does not conceptualize variables as affecting individuals in a homogenous manner, and instead seeks to more closely model their real-life impact by analyzing the manner in which variables interact within individuals to effect outcomes. Thus, person-centered approaches have the ability to capture the complexity inherent in the lives of acculturating Latino caregivers that has been missed by previous variable-centered approaches. In line with this mode of thought, this dissertation implemented a person-centered approach using latent profile analysis to identify profiles of acculturative and contextual factors that may influence Latino caregivers' baseline levels of activation.

Hypotheses

The proposed dissertation addressed 4 primary hypotheses. Hypothesis 1 employed an exploratory latent class analysis (LCA) to test for the existence of different caregiver profiles comprised by the aforementioned acculturative and contextual factors of interest. Given previous research analyzing latent profiles among Latino populations (Ayón, Williams, Marsiglia, Ayers, & Kiehne, 2015; Prado et al., 2013; Roche et al., 2014), I expected to identify between 2 and 6 latent profiles within the sample.

Hypothesis 2 tested for whether the identified caregiver profiles differentially predicted baseline levels of treatment activation upon entering the MEPREPA intervention. I expected to identify profiles that consistently convey patterns of high and low risk in terms of caregiver' baseline levels of treatment activation, such that profiles displaying low levels across acculturative (i.e., English-language acculturation, low

English-media preference, low American-ethnic-social preference) and contextual factors (i.e., family income, hours worked per week) would be associated with lower levels of baseline activation.

Hypothesis 3 initially intended to examine how caregiver acculturative and contextual profiles impacted their response to the intervention. However, following preliminary analyses—discussed at greater length in the analyses section below—that revealed significant issues with variability among the latent profiles, this hypothesis was instead tested using the construct that displayed the greatest variability and best differentiated individuals across profiles: English-language acculturation. Therefore, hypothesis 3 examined whether English-language acculturation significantly influenced caregivers' response to the MEPREPA intervention. Given prior research indicating that Latino caregivers who stand to benefit the most from intervention tend to respond best to intervention efforts (e.g., Carpentier et al., 2007; Lakes et al., 2009), I hypothesized that caregivers in the treatment group who endorsed a lack of English-language acculturation would experience the sharpest increases in treatment activation at the 1-month and 3-month posttest time points in comparison to caregivers who indicated at least some level of English-language acculturation.

Hypothesis 4 examined whether session-attendance significantly influenced caregivers' response to MEPREPA. Research suggests that immigrant Latinos are likely to hold culturally based negative outlooks towards mental health and upon entering treatment and, as a result, are also more likely to display low levels of treatment activation (Cauce et al., 2002; Eiraldi et al., 2006; Guo et al., 2015). Whereas evidence

exists that these views can be modified via active intervention efforts (e.g., Alegría, Polo, et al., 2008), it remains unclear how many sessions and what types of supports would be necessary to achieve significant shifts in caregivers' outlooks. In light of this research, as well as the fact that the primary activation skill in MEPREPA is introduced at the second session and further reinforced at the third and fourth sessions, I hypothesized that caregivers in the treatment group who attended 3 or more sessions would display improved outcomes in comparison to those attending 2 or fewer sessions.

CHAPTER II

METHODS

Procedure

Secondary data were obtained from a randomized clinical trial of 172 Latino caregivers who were either receiving or seeking mental health services for their children (younger than 22 years old) in a Spanish-language community mental health clinic in North Carolina. Inclusion criteria for the trial consisted of having a child aged 22 or younger and being able to attend four weekly 1-hour group therapy sessions. Participants were excluded from the study if the child in question was not living with the caregiver who would be participating in the intervention or if it was identified that caregivers were actively suicidal and required immediate mental health services. The control group for the randomized clinical trial consisted of an unstructured parent support group in which caregivers shared their experiences in seeking out mental health services for their children. Facilitators and the project coordinator were blinded to the intervention they were conducting, such that they were unaware of whether they were administering the control or experimental condition in order to control for potential experimenter effects.

The project coordinator gathered data for the measures of interest to the original randomized clinical trial during individual interviews with caregivers completed at baseline, 1-month, and 3-month follow-ups. Participants were reimbursed \$20 per data collection point. This dissertation used all three data points.

Recruitment and Group Assignment

Participants were recruited either at the point of entry into the mental health clinic or were drawn from existing clients already receiving therapy. Upon receiving consent and assent from caregivers and their children, respectively, families were randomly assigned to either the treatment or control groups. Due to a priori concerns (see Thomas et al., 2017) that Medicaid status would impact activation due to the reduction of a significant barrier to treatment, randomization was conducted in a block design stratified by Medicaid coverage. According to Hedden, Woolson, and Malcolm (2006), block randomization with stratification presents a viable alternative for randomization when a variable is known a priori to have the potential to skew results.

Sample

One participant was identified as a model fit outlier. Following the latest recommendations for identifying and managing outliers (Aguinis, Gottfredson, & Joo, 2013), the individual's data was first identified using a visual approach (i.e., Scatterplot) and then further scrutinized using quantitative approaches (i.e., residual score analysis, model fit analysis), which revealed that the individual's standardized residual scores for each of the acculturative factors far exceeded the $SE = \pm 2.68$ recommended cutoff (i.e., $SE_{Media} = 5.269$; $SE_{Social} = 3.867$; $SE_{Language} = 8.774$) and that model fit improved once the individual was removed from the analysis, with AIC (4591.500 vs. 4764.066), BIC (4660.617 vs. 4833.311) and SSABIC (4590.955 vs. 4763.648) all displaying lower values indicative of improved model fit. A closer analysis of the individuals' responses suggested that they were significantly more acculturated than the rest of the sample, and

although their response pattern appeared valid, their data were not included in the final analyses as they significantly distorted model fit for the current sample, which predominantly displayed lower levels of acculturation.

Thus, the final sample utilized in the current dissertation consisted of 171 Latina/o caregivers. A majority of participants were biological mothers (94.2%), with the remainder consisting of fathers (2.9%) and other caregivers (2.9%). Caregivers were largely young to middle aged parents, with an average age of 35.8 ($SD = 6.6$). The sample overall displayed low educational attainment, with a majority of participants not having completed high school (69.8%), only about a quarter having received a high school diploma (26.7%), and a handful having a bachelor's degree (3.5%). Family income tended to be low, with an average reported monthly income of \$1,446 per family.

In terms of focal child demographics (i.e., child receiving treatment), the mean age was 11 years old ($SD = 3.7$; range 3-19), with slightly less than half of the children being boys (43.6%). The child disorders caregivers were seeking treatment for in this sample consisted of adjustment disorders (47%), mood or depressive disorders (32%), attentional disorders (19%), and anxiety disorders (12%), with a small number diagnosed with other types of disorders (i.e., Bulimia, Substance Abuse, Autism). A slight majority of children (56%) were novices to treatment, having had 6 or fewer visits prior to their caregivers becoming enrolled in the study.

MEPREPA Intervention and Control Groups

MEPREPA consisted of 4 60-minute sessions held once a week with a group of Latino caregivers aimed at increasing their activation skills. Sessions instructed

caregivers in activation skills to be used within the mental health and school settings. Among the skills taught, learning how to communicate effectively with children, mental health professionals, and school personnel were the cornerstones of MEPREPA's activation intervention. Throughout each session, caregivers learned effective communication skills through instruction, discussion, and role-plays. The control group also consisted of 4 60-minute weekly sessions but functioned ostensibly as a parent support group in which caregivers discussed their issues in seeking mental health services for their children. In the support group, facilitators did not provide any instruction or direction to discussion outside of establishing group rules at the first session. Facilitators leading the groups were bilingual Master's level clinical psychology students and all groups were conducted in Spanish. Sessions were audiotaped and reviewed by a Latina clinical psychologist to ensure fidelity and to supervise facilitators on issues that may have materialized during session.

The mean number of sessions attended across both groups was 2.9. Nearly all participants attended at least one session (92%), with 43% attending all sessions. Attendance was not significantly different between intervention and control groups ($F = 1.834, p = .177$). All groups tended to include between 3-6 caregivers on average.

Measures

Caregiver Activation

Caregiver activation was measured using a modified Patient Activation Measure short form (PAM-13) (Hibbard, Mahoney, Stockard, & Tusler, 2005). The PAM-13 is a 13-item Likert-type scale in which participants indicated on a scale from 1 (Disagree

Strongly) to 4 (Agree Strongly) how much they agree or disagree with the statement provided. Sample items include, “I am confident I can tell a doctor the concerns that I have about my child’s health, even when he or she does not ask” and “I understand the nature and causes of my child’s health condition(s).” The present study employed the translated version of the PAM, which has shown to have excellent reliability among Latino populations (Maranda, Deen, Elshafey, Herrera, & Gold, 2014). For the present study, PAM was measured prior to intervention, at 1-month, and 3-month follow-up.

English-Language Acculturation, Media Language and Ethnic Social Preferences

Caregiver English-language acculturation, media language preference, and ethnic social preferences were measured using the corresponding subscales of the Spanish version of the Short Acculturation Scale (SAS) (Marin et al., 1987). The scale overall consists of 12 Likert-type questionnaire items and provides scores on a continuum ranging from Latino/Spanish to American/English. Examples of items on the language-preference subscale included, “In general, what language do you read and speak?” and “In which language do you usually think?” Responses ranged from (1) “Only Spanish” to (5) “Only English.” Items on this scale are considered to capture linguistic aspects of acculturation, which include both language preference and language-use. Items on the ethnic social relations subscale included, “You prefer going to social gatherings/parties at which people are:” or “If you could choose your children’s friends, you would want them to be:” and possible responses ranged from (1) “All Latinos/Hispanics” to (5) “All Americans.” Sample items from the media language preference scale included, “In general, in what language are the movies, T.V. and radio programs you *prefer* to watch

and listen to?” The scale has been shown to have excellent validity among Central American and Mexican populations (Marin et al., 1987). Acculturative factors were only measured at baseline.

Family Income

Family income was obtained using a single questionnaire item in which participants indicated the amount of money their family earns in a year. An income-to-needs ratio was calculated for each family’s income adjusted for family size (e.g., Marcella, Howes, & Fuligni, 2014). Family income was measured at baseline only.

Caregiver Hours Worked per Week

Caregiver number of hours worked per week was assessed by a single question, “About how many hours do you work for pay in an average week?” Hours worked per week were collected at baseline only.

Attendance: Intervention attendance was logged for each of the 4 intervention sessions (1: present and 0: not present) and each family’s total number of attended sessions was treated as a continuous variable (e.g., Pantin et al., 2003).

Analytic Plan

Caregiver latent profiles were generated using exploratory latent class analysis (LCA) in Mplus 8.0 (Muthén & Muthén, 1998-2012). Following recommendations from Asparouhov and Muthén (2012), I conducted Lo-Mendell-Rubin and bootstrapped likelihood tests to assess whether a k-1 versus a k number of classes model resulted in significantly improved model fit. Separate models were run for the presence of 2-6 latent classes to identify caregiver profiles along the acculturative and contextual variables of

interest. Following the most recent recommendations for selecting the best fitting model (Lanza, Tan, & Bray, 2013), I compared across each model's information criteria parameters (i.e., AIC, BIC, and SSaBIC), which provided relative model fit across models with an increasing number of classes. For each of these measures, lower values suggest optimal balance between model fit and parsimony. Each model's entropy, a measure indicating the quality of classification across classes (i.e., how well do they identify separate individuals within the sample) was also assessed. Entropy values above .80 are considered acceptable, with values above .90 being indicative of excellent classification. Finally, in line with recommendations, the final model chosen was the one that was most easily interpreted given the nature of the sample and relevant theory.

Following recent advances in LCA research for using latent classes to predict distal outcomes (Bakk & Vermunt, 2016), the current dissertation's LCA included caregivers' reported baseline PAM scores in the model as an auxiliary continuous outcome such that a baseline PAM score was generated for each identified class. Previous 'classify-analyze' methods, in which classes are first defined and the distal outcome is then included in the model, have been criticized for not allowing the outcome variable to influence conditional probabilities across classes and thereby producing biased results (Bakk & Vermunt, 2016). Baseline PAM mean scores across latent classes were then compared in order to test for significant differences.

In terms of testing hypotheses 3 and 4, two primary issues arose following preliminary analyses of the latent classes. First, the distribution of participants across classes was severely skewed, with one class consistently representing at least 71.3% or as

much as 87.1% of the sample across models. Such an uneven distribution of participants across classes rendered it inadvisable to proceed with additional analyses using these classes to predict distal outcomes. Second, the small numbers across certain class models further indicated that the sample would be underpowered to conduct traditional timepoint*treatment condition*class membership and timepoint*treatment condition*session attendance three-way interactions in order to assess for the impact of class membership and session attendance on response to the intervention.

As a result, I chose to pursue an alternative mode of analyzing the data to test the proposed hypotheses addressing the issue of ‘for whom did the intervention work best?’ I chose to use a difference-in-difference (DID) approach—an exploratory longitudinal linear mixed modeling methodology—to test for significant differences in the changes in caregivers’ PAM scores from baseline to 1-month and baseline to 3-month time points for English-language acculturation and session attendance. English-language acculturation was chosen from the range of acculturative and contextual factors used in the original LCA due to the fact that preliminary analyses indicated it was the variable on which classes were most clearly differentiated across models (See Figure 2). Furthermore, using English-language acculturation made the most sense theoretically due to the fact that it has been used in past research as an indicator for overall ethnic orientation (Vega & Gil, 1998; Wallace et al., 2010) and serves a critical function in terms of determining the extent to which Latino caregivers are likely to be able to communicate with providers (Valdez et al., 2013).

To conduct the DID analysis, the sample was dichotomized for each variable of interest (i.e., English-language acculturation, session-attendance) by creating dummy variables. For English-language acculturation individuals were classified as either possessing ‘No English-language acculturation’ (i.e., individuals who did not endorse any level of English acculturation across language scale items) or possessing ‘Some English-language acculturation’ (i.e., individuals who endorsed some level of English acculturation on at least one language scale item). The idea behind this dichotomization was that non-English speakers would likely experience the barriers of language in a categorically different manner compared to caregivers who endorsed at least some level of English-language acculturation. Furthermore, I hypothesized that the acculturative and contextual experiences of individuals in terms of exposure (or lack thereof) to the host culture would also be categorically different for individuals on either side of this dichotomy.

For session attendance, individuals were classified as either ‘low attendance’ (i.e., attended 2 or fewer sessions) or ‘high attendance’ (i.e., attended 3 or more sessions). Separate multiple linear regressions were carried out for each subset of individuals, such that the time*intervention interaction provided the PAM score mean differences from baseline to 1-month and baseline to 3-month for the intervention group relative to the control group. Maximum likelihood estimation was employed in the DID analyses to manage missing data and increase the likelihood of identifying significant results.

All the aforementioned analyses controlled for child novice status to therapy as the original intervention study (Thomas et al., 2017) found that there was a significant

imbalance in the percentage of novice children in the intervention group (66%) in comparison to those in the control group (46%). The original intervention study, however, found that neither the age nor the gender of child significantly predicted results across treatment and control groups, so these variables were not controlled for in the primary analysis in the hopes of increasing the chances of detecting meaningful differences between groups. Finally, given that Medicaid status was controlled for through the blocked group assignment stratified by Medicaid coverage, insurance status was also not controlled for in the analyses in the hopes of increasing the chances of detecting significant activation differences among sub-groups.

CHAPTER III

RESULTS

Descriptive Statistics

Table 1 provides descriptive information for the sample subdivided by treatment and control groups across variables employed in this dissertation's primary analyses.

There were no significant mean differences across variables for individuals in the treatment and control groups. Consistent with immigrant Latino samples in the literature, the current sample displayed both low levels of acculturation and income. In terms of hours worked per week, around 48% of the sample were not working, 9% worked 0-20 hours per week, and 42% worked 20+ hours per week, which is consistent with the fact that the vast majority of the sample consisted of biological mothers (94.2%) and several were part of single income households.

Table 2 provides the bivariate correlations of the acculturative and contextual variables and PAM. The acculturative and contextual variables were, with the exception of the association between 'Hours Worked per Week' and 'Media Preference,' significantly correlated with one another. However, it should be noted that the strength of associations between acculturative and contextual factors was modest, ranging from $r = .12$ to $r = .24$, indicating that these variables were not redundant and likely captured different aspects of caregivers' lives. Similarly, although the associations among acculturative variables were understandably higher, ranging from $r = .44$ to $r = .51$, no

instances of collinearity were identified across all variables, with all VIF values falling below 1.489, which was well below the $VIF = 3.000$ recommended cutoff for likely collinearity (Lovie, 1991). Finally, although 'Family Income' was the only variable significantly associated with PAM ($r = .12; p < .05$), given the exploratory and novel nature of this dissertation's analyses I chose to not employ a purely clinical approach dictating that I only include variables with significant bivariate associations with the outcome in my analyses.

Hypothesis 1: Latent Class Analysis

Table 3 provides the LCA model fit indices across models ranging from two to six classes. All models displayed excellent entropy, indicating well-differentiated classes irrespective of the model in question. Whereas the LMR test was only significant for the 2-class model, this statistic has been critiqued in the past for being too stringent and ruling out potentially well-fitting models (Asparouhov & Muthén, 2012). Instead, BLRT is often preferred as a less biased indicator of model fit. The fact that, in addition to their excellent entropy, this test was significant across models indicated that all models represented viable solutions. In terms of the remaining fit indices, although AIC, BIC, and SSaBIC values became smaller as the number of classes increased, suggesting improved parsimony and fit, the distribution of caregivers across classes and how they were differentiated from one another along contextual and acculturative variables was most easily interpreted by the 3-class solution. Thus, taking both theoretical feasibility and fit statistics into consideration, the 3-class solution was selected as the overall best-fitting model.

Figure 2 illustrates the standardized means for each indicator across the three latent classes. Across indicators, individuals were best differentiated by acculturative factors, with English-language acculturation displaying the greatest variability across classes. Although class differences were also found in terms of family income and hours worked per week, differences among contextual variables were smaller and more difficult to interpret, likely as a result of issues of low variability on these variables within the sample. Class labels were therefore assigned in terms of levels of acculturation due to their interpretability.

Tables 4 and 5 provide the estimated standardized and unstandardized means for each acculturative and contextual variable. Caregivers in Class 1 ($n = 139$; 81.3% of the sample) were characterized by the lowest levels of English-language acculturation ($M = 1.03$, $SE = 0.01$) as well as lowest English-media ($M = 1.34$, $SE = 0.06$) and American ethnic-social relations preferences ($M = 1.68$, $SE = 0.03$). Caregivers in this class also displayed the lowest average hours worked per week ($M = 14.90$, $SE = 1.50$) and the lowest family income ($M = \$1,370.32$, $SE = 54.93$) across the sample, likely indicating that these were mostly single income families. Accordingly, Class 1 caregivers were labeled 'Low Acculturation.'

Caregivers in Class 2 ($n = 7$; 4.1% of sample) displayed the highest levels of English-language acculturation ($M = 2.40$, $SE = 0.11$) and English-media preferences ($M = 3.32$, $SE = 0.46$), with their American ethnic-social preference also being higher than 'Low Acculturation' caregivers ($M = 2.30$, $SE = 0.09$). Class 2 caregivers also displayed the highest mean hours worked per week ($M = 27.02$, $SE = 6.65$) as well as the highest

incomes ($M = \$1,817.87$, $SE = 234.18$). Due to their higher levels of acculturation relative to the rest of the sample, Class 2 caregivers were labeled ‘High Acculturation.’

Caregivers in Class 3 ($n = 25$; 14% of the sample) largely fell in between the other two classes in regards to English-language acculturation ($M = 1.47$, $SD = 0.06$) and English-media preference ($M = 2.46$, $SD = 0.24$), and were only slightly more oriented towards English ethnic-social preference ($M = 2.30$, $SD = 0.09$) in comparison to ‘High Acculturation’ caregivers. Class 3 caregivers worked slightly fewer hours ($M = 24.61$, $SD = 3.95$) and had slightly lower average family incomes ($M = \$1,797.95$, $SD = 156.57$) in comparison to ‘High Acculturation’ caregivers. Accordingly, Class 3 was labeled ‘Medium Acculturation.’

Overall, the LCA produced three well-defined classes that differed from one another largely on the basis of acculturative factors, and particularly in terms of their English-language acculturation. Nonetheless, it should be noted that despite showing the greatest levels of acculturation in this sample, ‘High Acculturation’ caregivers’ means across indicators at best only slightly favored an English/American orientation as the sample displayed low overall levels of acculturation. This skew in the sample was further evidenced by the manner in which caregivers were distributed among the classes, with the ‘Low Acculturation’ class comprising over 81% of the sample. Past research with immigrant Latinos in emerging communities has found that such samples will typically consist of a majority of low-accultured individuals, with few bicultural individuals, and even fewer highly-accultured individuals (Pineros-Leano, Liechty, & Piedra, 2017). Taking these theoretical considerations in conjunction with the corresponding adequate

fit statistics, I decided that the 3-class model provided the best fit in terms of describing the current sample.

Hypothesis 2: LCA Prediction of Baseline PAM

Table 6 displays the estimated baseline PAM mean scores for the three latent caregiver classes along with the corresponding test statistics assessing for significant mean differences between classes. Consistent with hypotheses, ‘Low Acculturation’ caregivers possessed the greatest level of risk in terms of displaying the lowest initial levels of activation ($M = 3.44$, $SE = 0.05$). ‘Medium Acculturation’ caregivers displayed the next highest initial levels of activation ($M = 3.54$, $SE = 0.10$), followed by ‘High Acculturation’ caregivers ($M = 3.69$, $SE = 0.00$), who displayed the highest initial levels of activation across the sample. The only significant difference across PAM mean scores occurred between the ‘Low’ and ‘High Acculturation’ classes ($\chi^2 = 30.728$, $df = 2$, $p \leq .001$).

Hypothesis 3: English-Language Acculturation

Hypothesis 3 was partially supported by results due to differential effects evidenced at the two different time points. Table 7 shows the estimated mean changes and multiple linear regression coefficients for the DID analysis for significant changes in PAM from baseline to 1-month and baseline to 3-months for sample subgroups based on English-language acculturation and session attendance across both treatment and control conditions. At the 1-month time point, the intervention resulted in significantly greater increases from baseline PAM mean scores relative to the control condition for both caregivers endorsing no English-language acculturation ($\beta = 5.912$, $p < .05$) and at least

some level of English-language acculturation ($\beta = 8.896, p < .05$). It should also be noted that across the two sample subsets, control group participants also displayed positive PAM mean change scores. This result suggested control group caregivers also derived some benefit from participating in the social support group, although their PAM mean change scores were smaller in comparison to intervention group caregivers.

At the 3-month time point, however, the test for intervention effects was not significant for caregivers with some English-Language Acculturation' ($\beta = 2.717, p = .51$), with their PAM mean change scores being roughly equal to those in the control group, whereas it was significant for caregivers with no English-language acculturation ($\beta = 6.955, p < .05$). An examination of the means suggests that, whereas the change in PAM scores appeared to level off for caregivers in the intervention group who endorsed some level of English-language acculturation, caregivers in the intervention group with no English-language acculturation saw a further increase in their PAM scores at three months.

In sum, it appears that both sets of caregivers benefited from the MEPREPA intervention over control group caregivers at the 1-month time point. However, whereas caregivers with at least some level of English-language acculturation appear to have acquired the majority of their gains in activation by the 1-month time point, caregivers who endorsed no English-language acculturation experienced significant gains in their activation levels at both the 1-month and 3-month time points. These results suggested that caregivers who displayed the greatest risk for low baseline levels of treatment

activation (i.e., ‘no English-language acculturation’ caregivers) appear to have experienced significant short *and* long-term gains in activation.

Hypothesis 4: Session Attendance

Hypothesis 4 was not supported, as the test for intervention effects at the 1-month time point was significant for both ‘high-’ ($\beta = 27.66, SE = 10.50, p < .05$) and ‘low-session attenders’ ($\beta = 6.15, SE = 2.36, p < .05$). An examination of the PAM mean change scores supports this result, as intervention group caregivers displayed consistently higher change scores in comparison to control group caregivers across both subgroups.

Results for intervention caregivers were relatively unchanged at the 3-month time point as ‘high-’ ($M = 23.19, SD = 1.63$) and ‘low-session attendance’ caregivers ($M = 26.38, SD = 6.30$) displayed higher PAM mean change scores in comparison to control group caregivers irrespective of their level of session attendance. Regarding the test for intervention effects, a significant effect was found for ‘high-attendance caregivers’ ($\beta = 5.73, SE = 2.38, p < .05$), whereas ‘low-attendance caregivers’ showed a trend level effect ($\beta = 20.87, SE = 10.50, p = .056$) for the intervention at this time point. The lack of a significant intervention effect for ‘low-attendance caregivers’ was somewhat surprising given the size of the corresponding regression coefficient as well as the PAM mean change difference between intervention ($M = 26.38, SD = 6.30$) and control ($M = 5.51, SD = 8.36$) groups. ‘Low-attendance caregivers’ had more missing data at the 3-month follow up, which may have led to estimation problems as evidenced, in part, by the relatively large standard error corresponding to this subset of the sample. Thus, it is likely that a larger sample would have been able to detect a significant treatment effect for this

subset of caregivers. Nonetheless, the trend level effect in conjunction with the significant effect found for 'High-Session Attendance' caregivers indicated that hypothesis 4 was also not supported at the 3-month time point as both sets of intervention group caregivers displayed sizeable gains in activation over control group caregivers.

Overall, results suggested caregivers experienced significant gains in PAM in comparison to control groups irrespective of the number of sessions attended. The fact that caregivers reported significant gains in activation over control group participants even after only attending one or two intervention sessions suggests that exposure to the intervention skills and knowledge likely had a particularly strong effect on caregivers' short and long-term treatment activation. By comparison, it was interesting that 'high-attendance' caregivers in the control group also displayed gains in their treatment activation at 1-month ($M = 10.73, SD = 1.56$) and 3-months ($M = 17.46, SD = 1.55$), whereas caregivers who attended 2 or fewer sessions displayed either limited ($M = 5.51, SD = 8.36$) or negative ($M = -1.86, SD = 8.36$) changes in their PAM mean score changes. This pattern of results suggests that the social support provided in the control condition likely had a weaker impact on caregivers' treatment activation that required increased session attendance in order to produce increases in caregivers' PAM scores. Conversely, it appears that exposure to the intervention's knowledge and skills surrounding activation proved to be successful in generating rapid and larger improvements in PAM scores even if caregivers only attended one or two sessions.

CHAPTER IV

DISCUSSION

This dissertation sought to expand the literature on caregiver treatment activation by using a theoretically grounded person-centered approach to explore how acculturative and contextual factors impacted immigrant Latino caregivers' initial levels of activation upon entering a brief activation intervention, as well as assessing how differences in English-language acculturation and session attendance shaped caregivers' response to the intervention. It should be noted, however, that the analytic strategies employed in this dissertation were exploratory in nature due to the aforementioned issues of limited sample size and variability. As such, this dissertation's results should be interpreted conservatively as potential directions for future more robust research efforts.

Nonetheless, study results generally aligned with previous research findings (Alegria et al., 2009; Bledsoe, 2008; Keyes et al., 2012) indicating that caregivers who possess acculturative and contextual risk profiles (i.e., low-acculturation, low-SES) are more likely to display low initial levels of activation prior to intervention. Analyses of specific factors revealed that caregivers' level of English-language acculturation significantly impacted response to the intervention, such that low-English-language acculturation caregivers experienced significant short- and long-term gains from the intervention, whereas caregivers' with at least some level of English-language acculturation only displayed significant short-term gains in activation. Session

attendance, on the other hand, did not significantly impact caregivers' response to the intervention, as caregivers displayed significant short and long-term gains in activation over their control group counterparts irrespective of the number of sessions they attended. I discuss these study results in further detail below exploring how they may be conceptualized through the lens of the TOPB to provide implications for future intervention efforts as well as the Latino intervention literature in general.

Hypothesis 1 was supported by the LCA as three distinct classes of caregivers were identified within the sample. Results showed that the latent classes were differentiated from each other largely along acculturative factors, with caregivers' English-language acculturation showing the greatest differentiation between classes. Consistent with the fact that this was an immigrant Latino sample, there was an inverse relationship between the proportion of the sample housed in each class and their reported level of English-language acculturation, with the class containing the 81.3% of caregivers displaying the lowest levels of English-language acculturation, followed by the class containing 14% of caregivers at the mid-level, and finally the smallest class containing only 4.1% of the sample showing the highest levels of English-language acculturation.

The remaining acculturative (i.e., ethnic-social relations, media preference) and contextual factors (i.e., family income, hours worked per week) were also differentiated among the classes, although to a lesser extent. These factors manifested across classes in manner consistent with research that has found a positive linear association between acculturation and SES (e.g., Cuéllar & Roberts, 1997). For example, the class displaying the highest level of English-language acculturation also displayed the highest levels of

English-media preference, the joint-highest American ethnic-social preference, as well as the highest number of hours worked and highest family income. Therefore, as a result of English-language acculturation being the variable that best distinguished caregivers from one another across classes, each class was labeled ‘Low-,’ ‘Medium-,’ and ‘High-Acculturation’ for the sake of interpretability. It is important to stress, however, that the sample displayed low-levels of acculturation overall, with ‘High-Acculturation’ caregivers displaying at best a moderate level of acculturation in comparison to population-level means. As such, these class labels should only be interpreted in terms of how they differentiated among Latino caregivers within the current sample that was primarily comprised of immigrant low-SES Latino families.

The relatively lower differences in contextual and acculturative factors across classes are likely also attributable to the current sample’s skew towards low-SES and low-acculturation. Such skewed sample demographics are common among recently immigrated Latino communities in the United States (Pineros-Leano et al., 2017) and can often result in issues of variability that make it difficult to detect meaningful differences in samples drawn from these populations. Nonetheless, it is notable that despite the current sample’s limitations, this dissertation was able to identify well-differentiated caregiver classes that also displayed means across constructs that were consistent with the extant literature. On the one hand, these results suggest that it is indeed feasible to conduct complex person-centered analyses like LCA with immigrant Latino families to arrive at more nuanced findings. However, it is also clear from results that future research efforts seeking to heed Stein and Guzman’s (2015) call for increased exploration of the

joint impacts of acculturative and contextual factors should seek to gather larger samples that will be able to account for issues of limited variability within immigrant Latino populations.

Hypothesis 2 was also supported as caregivers displaying the highest levels of acculturative and contextual risk profiles (i.e., lower English-language acculturation, higher Latino media and Latino ethnic-social preference, and lower levels of family income) also reported the lowest baseline levels of treatment activation. Although caregivers in the 'Low Acculturation' class displayed the lowest average hours worked per week, in this mainly low-SES sample, this variable may have been an indicator for lower family income as a result of fewer hours worked per week, which may have represented a larger barrier to activation with the current sample in comparison to the limits longer working hours place on caregivers' availability. Alternatively, given that the sample was largely composed of biological mothers, it is possible that mothers were not working within these lower income families, which would explain the lower number of reported hours worked per week. Such an interpretation would also be consistent with the fact that caregivers in the 'Low Acculturation' class also displayed the lowest levels of English-language acculturation, which may be a direct result of these mother having limited exposure to acculturating experiences by virtue of not working and being more isolated in comparison to their higher English-language acculturated and higher-SES counterparts.

Furthermore, these results lend support to the applicability of the TOPB in understanding how acculturative and contextual barriers may become aggregated within

Latino caregivers to shape behavioral beliefs that preclude them from engaging with mental health services and progressing to Hibbard and colleagues' (2004) latter stages of treatment activation. Questions remain, however, regarding the relative contributions of the acculturative and contextual factors assessed in this dissertation, which are by no means an exhaustive representation of the myriad issues faced by Latino caregivers seeking mental health treatment for their children. Thus, it will be particularly important for future research to continue to employ person-centered approaches with larger samples in order to disentangle the relative and compounded impact that different acculturative and contextual factors can have on Latino families' treatment activation.

Hypothesis 3 was not supported at the 1-month time point, as the intervention resulted in significant increases in PAM for caregivers displaying 'No English-language Acculturation' *as well as* for caregivers displaying at least 'Some English-language Acculturation'. At the 3-month time point, however, the intervention only resulted in significant increases in PAM for caregivers who displayed no English-language acculturation, supporting the hypothesis that caregivers' displaying the greatest risk for low initial levels of activation would display the strongest response to intervention. Thus, current results were consistent with prior research indicating that less-accultured Latinos who are likely to be less familiar with mental health treatment derive the greatest benefits from interventions as a result of having more room to grow in their knowledge and activation skills (Alegria, Polo, et al., 2008; Prado et al., 2013).

In regards to the TOPB and Hibbard and colleague's (2004) 4-stage theory of treatment activation, researchers have pointed to the fact that low-acculturation Latinos

are likely precluded from moving on to the latter two stages of treatment activation (i.e., enactment and maintenance of treatment furthering behaviors) as a result of (a) negative outlooks towards the mental health often socialized within Latino communities (i.e., normative beliefs of important referents) (Cabassa et al., 2007; Vargas et al., 2015), (b) the perception of barriers to accessing treatment (e.g., economic, linguistic, etc.) (Bledsoe, 2008), and (c) low behavioral beliefs about the viability of mental health due to language limitations and/or unfamiliarity with Western mental health (Interian et al., 2007). This dissertation's results suggest, however, that these 'culturally-entrenched' negative outlooks towards mental health may not be so entrenched after all. Evidenced by the fact that non-English-language acculturated Latino caregivers were able to derive significant gains in treatment activation one month after attending four 60-minute group intervention sessions, it would appear that the aforementioned tenets of the TOPB have the potential to be modified through relatively minimal intervention efforts. Furthermore, the fact that non-English-language acculturated individuals were the only subset of caregivers to also report significant intervention gains at 3-months may be an indication that these caregivers were indeed able to internalize and use the activation skills and knowledge to generate these further increases in activation—a sign that that they may have progressed beyond the first two stages of Hibbard and colleagues' (2004) theory.

It remains unclear from the current analysis, however, to what extent is limited English-language acculturation representative of a practical linguistic barrier and to what extent is it a proxy for of a larger psychological barrier stemming from a Latino cultural orientation and/or limited familiarity with Western mental health. Furthermore,

irrespective of which construct(s) this variable tapped into, the relative impacts of these two barriers on individuals' overall behavioral intentions towards activation can also not be gleaned from the current analysis. Nonetheless, it is important to note that the MEPREPA intervention was able to generate increases in treatment activation within a low-acculturation/SES sample without increasing caregivers English speaking abilities. Instead, the intervention primarily involved teaching activation skills and conducting role-plays that presented caregivers with examples of how to interact effectively with providers/professionals. In doing so, the intervention may have helped to 'acculturate' caregivers to Western mental health by exposing them to modes of communication and implicit treatment expectations that they may have otherwise been unaware of. In this sense, the current dissertation would appear to support to the idea that the psychological barriers posed by unfamiliarity and culturally-based negative outlooks towards Western mental health represent a stronger barrier to the development of treatment activation in comparison to the ability to speak English. Nonetheless, due to the exploratory nature of these findings, it will be important for future research to continue to disentangle the associations between language-speaking abilities, cultural orientation, and treatment activation/access among immigrant Latino populations.

Hypothesis 4 was not supported as the intervention generated significant changes in caregiver activation at the 1-month time point for both low- and high-attendance caregivers, and displayed significant and trend level effects for high- and low-session attenders at 3 months. Contrary to hypotheses, results indicated that attending more sessions did not necessarily result in an improved response to the intervention, as

caregivers benefitted significantly from the intervention at both time points irrespective of the number of sessions they attended. These results do lend support, however, to the intervention's potential for generating significant and lasting improvements in immigrant Latino caregivers' treatment activation even with exposure to only one or two sessions.

In terms of the TOPB, the pattern of session attendance results for the intervention group was particularly striking when compared to control group results. Whereas control group participants also saw improvements in their treatment activation scores at 1 and 3-months, an examination of the means suggested that this was only the case for caregivers who attended three or four control group sessions. As the control group condition essentially consisted of a support group, it is likely that caregivers were exposed to cultural referents (i.e., other caregivers) who may have expressed positive outlooks towards mental health that would have helped to shift what these caregivers understood the 'normative beliefs' of the referents to be. Control group discussions also involved caregivers providing each other with emotional support and suggestions surrounding issues associated with managing their children's mental healthcare, which could have impacted caregiver's perceptions of barriers. However, the fact that caregivers needed to attend three or four sessions to see an improvement in their treatment activation indicated that the non-directive/practical manner in which these two tenets of the TOPB were addressed by the control group condition likely resulted in its decreased impact on caregivers' overall behavioral intentions towards treatment activation behaviors.

Conversely, the fact that intervention group caregivers displayed significant short and long-term increases in treatment activation irrespective of the number of sessions

attended suggests that there was something particularly important about learning the activation skill and participating in group discussions specifically aimed at increasing activation. Whereas both treatment conditions contained a social support component, it appears that learning the intervention skills provided a significant added benefit for caregivers by empowering them to go on to continue developing their treatment activation on their own. In terms of the TOPB, this empowerment likely led to improvements in caregivers' behavioral beliefs about the viability of mental health treatment and their own abilities to be effective advocates for their children (i.e., treatment activation) over and above the social support components included in each treatment condition.

Overall, the current dissertation's results are consistent with past research showing that Latinos displaying the highest acculturative and contextual risk profiles are likely to also endorse the lowest levels of treatment activation upon entering treatment. However, analyses of response to the MEPREPA intervention indicated that caregivers who were not acculturated to English displayed significant short- and long-term gains in treatment activation, whereas those with some level of English-language acculturation only showed significant gains in the short term. Analyses of the impact of session-attendance showed that the MEPREPA intervention was able to generate significant improvement in MEPRPEA relative to the control group irrespective of the number of sessions caregivers attended. Assessing these exploratory results through the frameworks of the TOPB, the current dissertation provides theoretically grounded initial support for why low-acculturation/SES immigrant Latino caregivers may enter treatment with low

levels of activation and why active interventions like MEPREPA, which harness protective factors inherent in these populations, are able to glean stronger responses to intervention in comparison to more acculturated Latinos. In light of similar result in prior intervention work with Latino families (e.g., Alegría, Polo, et al., 2008; Prado et al., 2013), one could argue that the mechanisms driving the current gaps in mental health treatment activation among Latinos may not be so much rooted in Latino culture as they may actually be representative of larger issues of limited access and exposure to mental health services and information. Future intervention efforts should regard these results as a sign of encouragement for researchers to continue targeting these vulnerable subsets of the Latino population through thoughtful person-centered approaches that will continue driving forward our understanding of mechanisms underlying current treatment activation gaps among Latino families.

Limitations

The current dissertation had several limitations that should be noted. For one, the sample possessed limited variability in regards to the constructs employed in the analyses, which at times made it difficult to detect significant findings in light of the complex techniques employed (i.e., LCA). Furthermore, the sample was recruited from a single Latino mental health clinic that provided Spanish-speaking services. As such, it is likely that Latino caregivers receiving services at this clinic would have displayed a greater propensity for low acculturation and low English-speaking abilities, which likely further constrained the sample's variability on the acculturative and contextual variables of interest. Given the well-documented issues with sample variability when recruiting

immigrant Latino populations, it will be important for future studies to increase sample variability by collecting larger samples from a variety of clinics, potentially expanding recruitment to other states with higher populations of second and third-generation Latino families (e.g., Arizona, California) as the current results are likely not generalizable to these populations. Finally, the current study did not directly assess for many of the protective cultural values (e.g., *respeto*, *personalismo*) enumerated in the introduction, such that it is unclear whether caregivers in the current sample actually possessed these values and what their impacts would have been on responses to the intervention. Furthermore, qualitative data on caregivers' attitudes and beliefs related to the tenets of the TOPB would have been helpful in corroborating and contextualizing the shifts—or lack thereof—in caregivers' treatment activation. Below I discuss how future research should seek to address the current dissertations' shortcomings in order to continue to elucidate our understanding of treatment activation development among immigrant Latino families.

Future Directions

This dissertation's results, in conjunction with past research have shown that, though low-acculturation and low-SES Latinos may indeed endorse low initial levels of treatment activation, this unfavorable outlook towards mental health treatment is not set in stone. Theoretically grounded approaches have the ability to generate improvements in activation through active yet brief intervention efforts. Active interventions have been critiqued in the past for having limited impacts across populations as a result of the onerous realities of increased time and effort associated with such efforts. These sections

of the literature suggest that passive dissemination of mental health information represents the best way to reach the greatest number of individuals (e.g., Dueweke & Bridges, 2017). Whereas this position may be true in terms of the number of individuals reached, the evidence is not there with regards to whether these efforts are successful in significantly shifting deep-seated negative attitudes and beliefs towards mental health treatment among Latinos.

Instead, the current dissertation showed that as few as one or two active intervention sessions can generate significant shifts among low-acculturation/SES immigrant Latino caregiver's outlook towards the viability of mental health and towards their own ability to be activated participants in their children's mental health care. Similarly, Alegría, Polo, and colleagues (2008) were able to generate significant increases in activation with only three 30-minute individual sessions. These results indicate that active intervention efforts need not be lengthy or demanding for either providers or participants in order to achieve results. Furthermore, in terms of addressing the issue of intervention with Latino communities from a theoretically-grounded standpoint, it stands to reason that a collectivistic culture known to ascribe a particular degree of importance to strong reciprocal interpersonal connections, trust (i.e., *confianza*), and communication will be less likely to be persuaded by the impersonal and passive dissemination of information.

In light of the aforementioned realities of Latino culture and the success of minimally burdensome active interventions—particularly with Latinos displaying the lowest levels of acculturation and SES—I posit that one of the ways forward will be for

intervention researchers to continue to specifically target these vulnerable populations through theoretically-adapted active interventions that. The reasoning being that as these efforts successfully improve attitudes and beliefs towards mental health within these vulnerable communities they may also begin to generate, much like MEPREPA was able to do, a shift in the ‘beliefs of important referents’ that could eventually result in community-wide reductions in mental health stigma and treatment utilization gaps.

The current dissertation results are also applicable to the realm of therapy with immigrant Latino families. Given that many immigrant Latino caregivers entered the intervention with low levels of treatment activation, it will be important for providers to assess the extent to which acculturative and contextual factors may be impacting caregivers’ outlook towards treatment and seek to address these concerns early on in treatment to increase the chances of developing a strong therapeutic alliance. It will also be important for future research to take the next logical step in applying the theories of treatment activation development and the TOPB with Latino populations by exploring the extent to which shifts in behavioral intentions actually result in the enactment and maintenance of treatment furthering behaviors (i.e., stages 3 & 4). Future studies could assess whether increases in Latino caregiver treatment activation are associated with increases in treatment-furthering behaviors like attendance, compliance, and therapeutic alliance, as well as reductions in treatment-hindering behaviors like premature dropout and disengagement during therapy sessions.

Conclusion

Clearly, the topic of treatment activation among Latino populations remains an understudied area of the literature and much more work is needed to gain a more nuanced understanding of how this construct manifests in light of acculturative and contextual factors associated with Latino populations. In light of current mental health treatment utilization gaps among Latino populations and the potential shown by interventions like MEPREPA to generate improvements in treatment activation, it will be important for researchers to continue exploring the mechanisms surrounding this construct in order to continue the development of active interventions capable of accommodating the wide range of acculturative and contextual profiles presented by the U.S. Latino population.

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APPENDIX A
TABLES AND FIGURES

Table 1

MEPREPA Session Outline and Theory of Planned Behavior Tenets Addressed in Each Session

Session Number and Content	Theory of Planned Behavior Tenets Addressed
<p>Session 1: -Psychoeducation surrounding child mental health etiology and presentation</p> <p>-Previous mental health seeking experiences (positive/negative)</p> <p>-Effective communication skills for understanding children's mental health issue in order to become active participants in treatment</p>	<p>- Behavioral beliefs: Assess for initial views surrounding the viability of mental health treatment</p> <p>-Views of important referents: Issues of stigma within the caregiver's family/community and caregiver's willingness to adhere or diverge from these views</p> <p>-Perception of barriers: Assess for barriers encountered in seeking mental health treatment</p>
<p>Session 2: -Psychoeducation surrounding who are providers of mental health services and the important role of caregivers in advocating for their children</p> <p>-Assessing prior barriers to communication with providers</p> <p>-Teach activation skill (MEPREPA) to increase caregivers' ability to effectively communicate with providers</p>	<p>-Behavioral beliefs: Increase caregiver's beliefs about the viability of treatment and the caregiver's role</p> <p>- Views of important referents: Address potential cultural barriers to communication with providers (i.e., <i>personalismo, respeto</i>)</p> <p>-Perception of Barriers: Barriers to communication with providers</p>
<p>Session 3: -Role play practice of activation skill with caregivers' real-life examples</p> <p>-Psychoeducation regarding important ingredients contributing to caregiver activation (i.e., rights, needs, barriers, knowledge of providers)</p>	<p>- Behavioral beliefs: Increase caregiver's beliefs about the viability of treatment and the caregiver's role</p> <p>- Views of important referents: Address potential cultural barriers to communication with providers (i.e., <i>personalismo, respeto</i>) through case examples</p> <p>- Perception of barriers: Assess for barriers to seeking mental health services within the caregiver's life/situation</p>

Table 1

Cont.

Session Number and Content	Theory of Planned Behavior Tenets Addressed
Session 4: -Psychoeducation surrounding advocating for child's mental health within the school setting	-Behavioral beliefs: Increasing caregiver's beliefs about their ability to advocate for their child's mental health within the school setting
-Application of activation skills (MEPREPA) within the school setting.	-Perception of barriers: Addressing issues preventing effective communication with school personnel (e.g., language, unresponsiveness, discrimination)

Table 2

Mean Scores Across Variables of Interest for Study Participants Differentiated by Treatment and Control Groups

	Treatment (<i>N</i> = 87) <i>M</i> (<i>SD</i>)	Control (<i>N</i> = 84) <i>M</i> (<i>SD</i>)	<i>p</i> -value ^a
Acculturative Factors			
English Language-Acculturation ^b	1.14 (.32)	1.13 (.30)	.780
Ethnic Social Preference ^b	1.81 (.41)	1.77 (.44)	.516
Media Preference ^b	1.66 (.96)	1.48 (.69)	.167
Contextual Factors			
Income	1505.98 (765.06)	1388.69 (574.39)	.260
Hours Worked/Week	16.53 (17.73)	16.98 (18.32)	.871
Sessions Attended	2.77 (1.30)	2.99 (1.25)	.177

^a One-Way ANOVA test of treatment and control group mean differences

^b Acculturative Factors: 1 = *Only Spanish/All Latino*, 5 = *Only English/All Americans*

Table 3

Bivariate Correlations of Acculturative and Contextual Variables

Variables	1	2	3	4	5	6
1. English-Language Acculturation	-					
2. Ethnic-Social Preference	.44**	-				
3. Media Preference	.51**	.44**	-			
4. Income	.24**	.17*	.19*	-		
5. Hours Worked/Week	.23**	.12	.21**	.24**	-	
6. PAM	-.06	.02	.03	.12*	-.01	-

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

Table 4

Fit Statistics and Class Distributions across Latent Class Models 2-6

# of Classes	df	AIC	BIC	SSABIC	Entropy	LMR	BLRT	Class: (n) %
2	18	1192.968	1249.518	1192.523	0.952	190.548*	195.181*	1: (149) 87.1% 2: (22) 12.9%
3	26	1065.358	1147.041	1064.714	0.977	140.202	145.610*	1: (25) 14% 2: (7) 4.1% 3: (139) 81.3%
4	34	1022.418	1129.340	1021.576	0.977	72.512	74.275*	1: (12) 7.0% 2: (6) 3.5% 3: (31) 18.1% 4: (122) 71.3%
5	42	990.777	1122.727	989.737	0.985	36.366	37.251*	1: (17) 9.9% 2: (14) 8.2% 3: (122) 71.3% 4: (12) 7.0% 5: (6) 3.5%
6	50	974.613	1131.696	973.375	0.978	42.083	43.106*	1: (122) 71.3% 2: (17) 9.9% 3: (5) 2.9% 4: (14) 8.2% 5: (12) 7.0% 6: (1) 0.5%

* $p < .05$

Table 5

Standardized Estimated Acculturative and Contextual Variable Means by Latent Class and Corresponding Standard Errors

Class	Acculturative/Contextual Variables				
	Language	Social Pref	Media Pref	Hours Worked	Income
Low Acculturation	9.51 (1.07)	4.75 (0.38)	2.05 (0.13)	0.85 (0.07)	2.09 (0.14)
Mid Acculturation	13.64 (1.75)	6.49 (0.67)	3.77 (0.54)	1.41 (0.24)	2.74 (0.26)
High Acculturation	22.25 (2.77)	6.35 (0.80)	5.09 (0.80)	1.55 (0.39)	2.77 (0.39)

Table 6

Unstandardized Estimated Acculturative and Contextual Variable Means by Latent Class and Corresponding Standard Errors

Class	Acculturative/Contextual Variables				
	Language	Social Pref	Media Pref	Hours Worked	Income
Low Acculturation	1.03 (0.01)	1.68 (0.30)	1.34 (0.06)	14.90 (1.50)	1370.32 (54.93)
Mid Acculturation	1.47 (0.06)	2.30 (0.09)	2.46 (0.24)	24.61 (3.95)	1797.948 (156.57)
High Acculturation	2.40 (0.11)	2.25 (0.20)	3.32 (0.46)	27.02 (6.65)	1817.87 (234.18)

Table 7

Estimated Baseline PAM Scores by Latent Class and Chi-Square Tests of Significant Mean Differences

Class	Baseline PAM Mean	Test of Sig. Differences	X^2	p -value
Low Acculturation	3.442	Low vs. High	30.728	$p < .001$
Mid Acculturation	3.539	High vs. Mid	2.308	$p = .129$
High Acculturation	3.692	Low vs. Mid	0.747	$p = .388$

Table 8

Caregiver PAM Mean Change Scores by Treatment Group and Sample Subsets, with Difference-In-Difference Model Results

Time period / Baseline characteristic	Intervention			Control			Difference in Difference		
	<i>n</i> ¹	Mean ²	(<i>SD</i>)	<i>n</i> ¹	Mean ²	(<i>SD</i>)	Regression Coefficient ³	(<i>SE</i>)	<i>p</i> -value ⁴
Baseline to 1 month									
Language									
SomeEnglish	17	17.14	(2.83)	18	8.25	(2.72)	8.90	(4.08)	0.032*
NoEnglish	41	17.69	(1.87)	43	11.78	(1.91)	5.91	(2.78)	.034*
Session Attendance									
2 or Fewer	15	25.80	(6.30)	8	-1.86	(8.36)	27.66	(10.50)	0.013*
3 or More	43	16.88	(1.60)	53	10.73	(1.56)	6.15	(2.36)	0.010*
Baseline To 3 Month									
Language									
SomeEnglish	19	18.48	(2.88)	18	15.78	(2.72)	2.72	(4.12)	0.511
NoEnglish	45	25.16	(1.91)	50	18.20	(1.92)	6.96	(2.79)	.0136*
Session Attendance									
2 or Fewer	17	26.38	(6.30)	11	5.509	(8.36)	20.87	(10.50)	0.056
3 or More	47	23.19	(1.63)	57	17.456	(1.55)	5.73	(2.37)	0.016*

¹ Observed portion of the sample in each category with no missing data. DID results employed maximum likelihood estimation to account for missing data

² Unadjusted mean difference score between baseline PAM mean and PAM mean measured at the corresponding time point

³ Regression coefficient and standard error for treatment group (intervention vs. control) in model estimating separate treatment effects for each level of stratification measure; positive values favor the intervention group

⁴ *p*-value corresponds to the treatment*time interaction for each level of the stratification measure

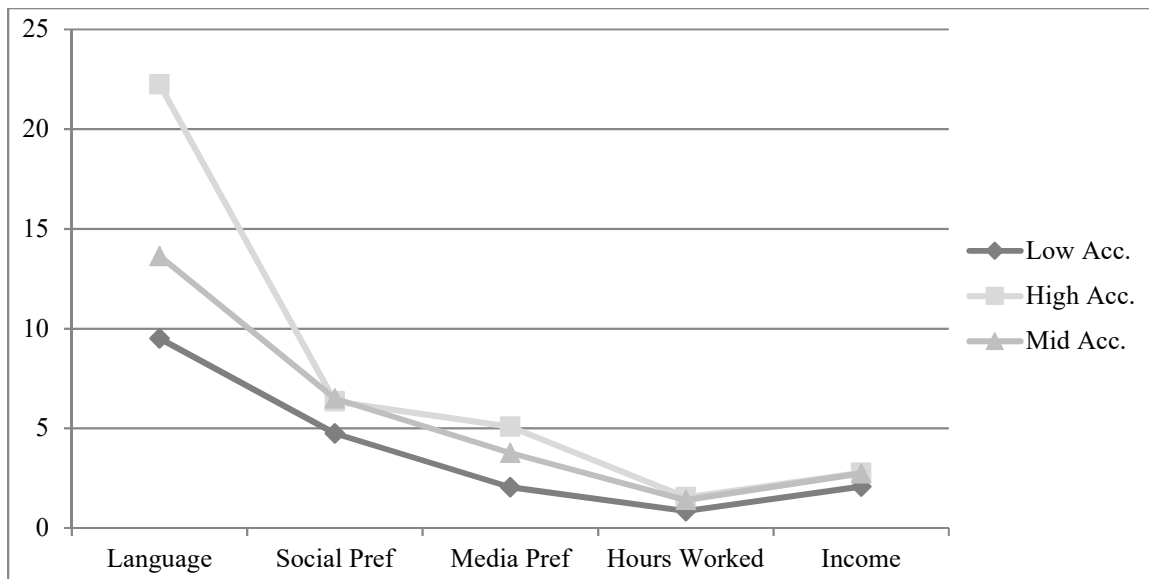


Figure 1. Line Plot of Standardized Variable Means for Each Caregiver Latent Class.