

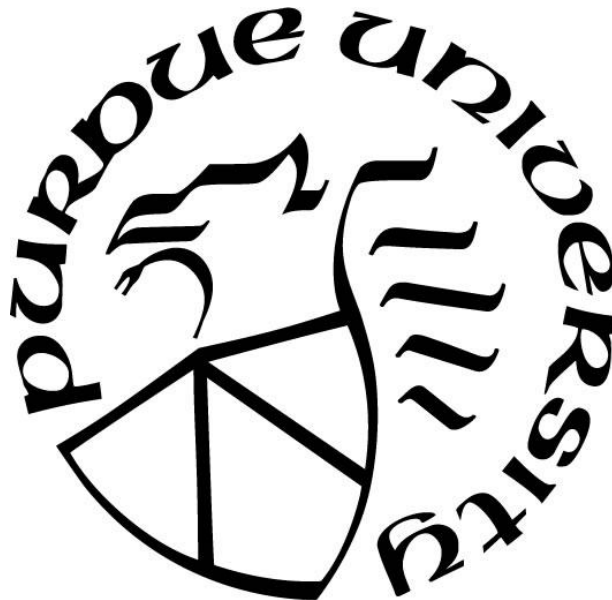
**DEPRESSIVE SYMPTOMS OVER TIME AMONG LATINE
ADOLESCENTS:
PROTECTIVE ROLE OF FAMILY**

by
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This dissertation is dedicated to:

To my loved ones, who have supported me every step of the way through this process. To my parents, thank you for always encouraging my educational pursuits and inspiring me to reach this point in my career. To my fiancé, Noe, thank you for your unconditional love, support, and guidance during my lowest points. I love you, and I'm glad we could do this journey together. To my siblings, thank you for always supporting me, even when you didn't know what I do for work.

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ABSTRACT

Adolescence and the transition to adulthood represent critical periods for the development of mental health issues that may persist into later life stages. Latine youth report elevated rates of depressive symptoms compared to other racial and ethnic groups and are less likely to access mental health treatment or healthcare services. Furthermore, due to various cultural and systemic factors, Latine adolescents and their parents are less likely to utilize mental health services when required. While Latine youth are impacted by extrafamilial factors, including social inequities and discrimination, they also benefit from cultural and structural supports within their family systems that can mitigate these external influences.

Utilizing a nationally representative sample of Latine adolescents ($N > 3,000$) from the National Longitudinal Study of Adolescent to Adult Health (Add Health), it was determined that early familial support and parental warmth are significantly correlated with reductions in depressive symptoms among Latine adolescents as they transition into adulthood. Moreover, paternal warmth emerged as a significant predictor of decreased depressive symptoms over time for Latinas, but not for Latinos within the sample. While subgroup differences were only observed for South/Central Americans in mental health care utilization, Cubans experiencing high levels of maternal engagement exhibited lower levels of depressive symptoms compared to other ethnic groups. Additionally, among other Hispanics, higher levels of paternal engagement were associated with increased depressive symptoms relative to other groups. These findings suggest that levels of familial engagement can exert varying degrees of impact, and that early familial strengths may serve as protective factors against depressive symptoms into adulthood.

Utilizing a longitudinal sample comprising 246 two-parent Mexican-origin families with two adolescent siblings (total $N = 984$) in a Southwestern state, maternal warmth emerged as the

most significant predictor of diminished depressive symptoms among all family members over time. In addition, a one-unit increase in maternal warmth was indirectly correlated with an 11% reduction in the likelihood of utilizing mental health care services. Furthermore, the amount of time spent with fathers and parental warmth proved to be more influential for Latina adolescents transitioning into early adulthood compared to their Latino counterparts. Lastly, maternal depressive symptoms heightened the probability of adolescents engaging with mental health care (MHC) services, but this association was only evident when mothers' warmth was perceived at low levels.

Overall, both of these studies exemplify the pivotal roles that mothers and families play in combating depressive symptoms within Latine families across the life course. Latine fathers need to be incorporated more fully into developmental research, especially regarding mental health. This study found that fathers' warmth and engagement were important in decreasing Latina adolescents' depressive symptoms, underscoring the importance of continuing this research. However, families' strengths were not associated with mental health care utilization, contrary to expectations. More research needs to examine the driving forces behind help-seeking behaviors within Latine families. Depressive symptoms within Latine families seem to be a trend that is interconnected through familial ties, and early family strengths can help buffer the impacts of future depressive symptomology.

CHAPTER 1 : INTRODUCTION & OVERVIEW

General Introduction and Motivation for the Research

Adolescence is a key developmental period for the emergence of depressive symptoms (Cicchetti, 2023; Conley et al., 2023; Cruz et al., 2021). Latine adolescents, the largest ethnic-racial minority group in the U.S. (U.S. Census Bureau, 2023), are disproportionately impacted: they report higher rates of depressive symptoms (42%) compared to Black (40%), White (39%), and Asian American (32%) adolescents (Centers for Disease Control & Prevention, 2023). A significant public health concern is that Latine adolescents who had reported a major depressive episode within the last year were less likely to receive mental health treatment than White adolescents, and nearly 50% did not receive any services at all (Delphin-Rittmon, 2022).

For the Latine community, social stigma around mental health and service utilization continues to detrimentally affect decisions to seek treatment for depression (Arreola et al., 2022; Benuto et al., 2019). In focus groups with Latine adults, the most commonly mentioned barriers to care were mental health stigma, financial concerns, transportation, immigrant status, lack of knowledge of services, language/cultural barriers, and perceived coldness of medical providers (Martínez Pinay & Guarnaccia, 2007). Additionally, Latine parents' immigrant status negatively affected their utilization of mental health services (Escobar-Galvez et al., 2023; Galvan & Gudiño, 2021). Thus, Latine adolescents are influenced by these extra-familial (external) and inter-familial influences, which may serve as key, configuring systems that can buffer against or exacerbate depressive symptoms (Bronfenbrenner & Morris, 1998; García Coll et al., 1996; Updegraff & Perez-Brena, 2023).

A primary family risk factor impacting children's well-being is depressive symptoms among other family members, especially parents (Delphin-Rittmon, 2022; Pineros-Leano et al.,

2021), whose functioning is integral to parenting quality. Latine families also confer potential sources of resilience. For example, strong family relationships provide potential protection against internalizing symptoms among Latine adolescents, mainly because close family relationships are highly valued (Ramos et al., 2022; Simpson et al., 2024). In addition, familism values, which are a key cultural value in Latine families that emphasize support, loyalty, honor, and obligation to the family unit are associated with lower internalizing symptoms (Cahill et al., 2021; Valdivieso-Mora et al., 2016).

There is still limited research on Latines' depressive symptoms across adolescence and into adulthood, and the cultural and familial circumstances that may confer mental health benefits (Anastasia et al., 2023; Conley et al., 2023; Nelson et al., 2020) and support mental health care utilization. Thus, there is a need to evaluate depressive symptoms, family risk factors (e.g., parent depression), family strengths (e.g., parental warmth, parental engagement, time with family, parental support, familism values), and relations with mental health care utilization among Latine adolescents and adults. The knowledge gained will help identify key points and targets for intervention and prevention. The focus of this dissertation is to increase discovery on the role of family processes in the development of depressive symptoms and mental health care utilization from adolescence to early-adulthood and subsequently into mid-adulthood among Latines.

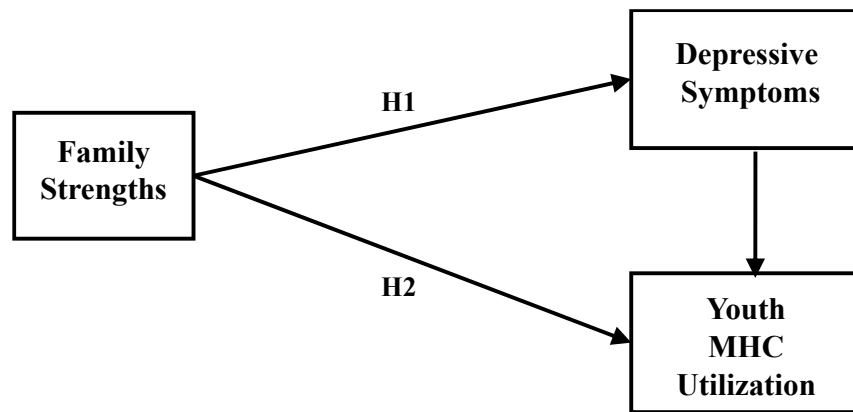
This dissertation comprises two primary studies. Figure 1 showcases the broad theoretical model for both studies. The first study aims to estimate the interrelations among the trajectory of depressive symptoms and overall mental health care utilization from adolescence to mid-adulthood for Latines. It also aims to examine familial strengths during adolescence as predictors of depressive symptoms and mental health care utilization and as moderators of the

associations between depressive symptoms and health care utilization. Lastly, it tests the moderation of these relationships by Latine national origin subgroup (i.e., Mexican, Cuban, Puerto Rican) and adolescent sex. The sample for study one is a nationally representative sample of Latine adolescents in the 1990's ($N > 3,000$) from the National Longitudinal Study of Adolescent to Adult Health (Add Health).

The second study aims to estimate bidirectional relations amongst Mexican-origin adolescents' and their mothers' and fathers' depressive symptoms and to examine mothers', fathers', and adolescents' depressive symptoms as predictors of mental health care utilization. It also aims to investigate how family strengths (parental warmth, time with parents, familism values) are related to mental health care utilization directly and indirectly via mothers', fathers', and adolescents' depressive symptoms. Lastly, it examines whether family and cultural strengths moderate the association between parent and adolescent depressive symptoms and their mental health care utilization. However, an alternative hypothesis is that these familial strengths, measured by parental warmth and time with parents, may mediate the association between parents' and adolescents' depressive symptoms, thus impacting the likelihood of adolescents utilizing mental health care services. The sample for study two includes 246 two-parent Mexican-origin families and their two adolescent siblings ($N = 984$) in a Southwestern state (Juntos).

Figure 1.

Overarching Hypothesized Conceptual Model



NOTE: Depressive Symptoms: Adolescents (study 1), Parents and adolescents (study 2). Abbreviations: MHC (Mental Health Care).

Background Review

Depressive Symptoms in Latine Families

Approximately 280 million people worldwide have reported depressive symptoms (Institute for Health Metrics and Evaluation (IHME), 2024). In the past year, 19.5% of adolescents aged 12 to 17 reported at least one major depressive episode (Delphin-Rittmon, 2022). Adolescent depression is linked to educational difficulties, such as poor academic achievement and lower grades (Zychinski & Polo, 2012), as well as suicidal ideation or attempts (Platt et al., 2023), poorer overall health (Li et al., 2023), and a higher likelihood of reported depression in adulthood (Plunkett et al., 2024; Benjet et al., 2020). Compared to White adolescents, Latine adolescents who experienced a major depressive episode in the past year were less likely to seek mental health treatment, with nearly 50% not receiving any services (Delphin-Rittmon, 2022).

Qualitative studies have shown that Latinos often view experiencing depressive symptoms due to difficult life circumstances, failure to meet personal responsibilities, or other external pressures (Martinez et al., 2007; Vargas et al., 2015; Cabassa et al., 2007). A qualitative study of Latine adults' experiences and perceptions of depression found that the perceived causes of depression were primarily interpersonal problems (58%), economic strain (37%), or lack of support (37%) (Cabassa et al., 2007). Additionally, most participants stated that depressive symptoms would improve with time (88%), could cause difficulties for those around them (80%), that a lot could be done to control their symptoms (91%), and that a person can determine whether their depressive symptoms get better or worse (81%) (Cabassa et al., 2007). For the current study, this may provide some insight into why Latine individuals may not seek out mental health care services when experiencing depressive symptoms.

Additional research, including studies involving Latine populations, shows that high levels of maternal depressive symptoms may negatively impact their children, contributing to depressive symptoms over time (e.g., Reyes et al., 2025; Griffith et al., 2024; Thomas et al., 2019). However, Latine fathers are less studied than mothers, especially regarding how their depressive symptoms relate to adolescents' mental health (Turner et al., 2023). Existing research indicates that higher parental depressive symptoms (e.g., both mothers' and fathers') are associated with increased depressive symptoms in adolescents over time (Eckshtain et al., 2018; Pineros-Leano et al., 2021).

Latine families have strengths that likely serve as preventative for depression symptoms among parents and their children and potentially for mental health care utilization (Bermudez & Mancini, 2013; Galvan & Gudiño, 2021; Simpson et al., 2024). It is important to understand which family factors confer protection and to what extent. For instance, previous research has

found that there are specific cultural elements that may impact Latine individuals' perceptions and behaviors when it comes to mental health care utilization (Jiménez et al., 2019). Latine families place greater importance on familial relationships, respect for authority, the inner qualities of the self, an external locus of control, and the acceptance of problems (Jiménez et al., 2019). These factors could impact depression symptoms and/or acknowledgement of depression as a treatable problem. Thus, it is crucial to consider the role that Latine culture may play in the utilization of mental health care (Jiménez et al., 2019; Park et al., 2024).

Mental Health Care Utilization in Latine Families

Despite the prevalence of depressive symptoms among Latine adolescents, there is still significant social stigma within Latine communities around mental health and utilization of services (Benuto et al., 2019; Ramos et al., 2022). Compared to White individuals, Latine individuals are less likely to utilize mental health care services and are less likely to receive psychotropic medications to treat mood disorders (Magaard et al., 2017; Cummings et al., 2014; Olfson et al., 2023). In 2024, 15.4% of Latine adolescents reported experiencing a major depressive episode (MDE), which has decreased from the previous year (18%); however, only 53.2% of those adolescents received mental health treatment (SAMHSA, 2025). Potential barriers described by Latine mothers and adolescents include not having time to be sad due to dealing with other issues (e.g., financial stressors, family harmony, stigma with mental health) in their lives or catering to family needs (Olcoñ & Gulbas, 2018; Pineros-Leano et al., 2021). This scenario may make Latine adolescents less likely to talk to someone when they are feeling sad (García et al., 2011).

The relationship between race/ethnicity and mental health care utilization is impacted by socioeconomic status, physical health, and socio-cultural variables (Chang et al., 2014). Within

Latine families, caregivers' immigrant status and lower acculturation levels negatively impacted their utilization of mental health services (Escobar-Galvez et al., 2023; Galvan & Gudiño, 2021). Employment status, insurance status, and higher education attainment were also related to better mental health care utilization and overall global functioning (Chang et al., 2014). Additionally, focus groups of Latine adults identified their most significant barriers to care: mental health stigma, financial concerns, transportation, immigrant status, lack of knowledge of services, language/cultural barriers, and relative coldness of medical providers (Martínez Pinay & Guarnaccia, 2007). Mental health literacy may also play a role, especially for recent Latine immigrants, with many reporting a lack of knowledge of mental health treatments and experiencing language barriers (Escobar-Galvez et al., 2023).

An individual's thought process about their mental health concern and seeking services may be mediated by how they interpret/understand mental health, as well as environmental factors that may impede that decision (Johnson & Possemato, 2019). For example, an individual who is experiencing depressive symptoms may be hesitant to seek services due to their lack of urgency, perceptions of depression, lack of mental health care options, and may also be impeded by their personal stigmas revolving around utilizing services, lack of social support, or financial resources (Johnson & Possemato, 2019; Escobar-Galvez et al., 2023). Additionally, mental health disparities may be present because of racial and ethnic injustices due to systemic racism and policies that disproportionately impact Latine individuals (Hutler, 2022).

Latine individuals reported that depression stemmed from difficult life circumstances and was not an illness requiring medical treatment (Martínez Pinay & Guarnaccia, 2007). Additionally, Latine focus group participants stated they preferred to address their own problems first, but would seek professional help if the problem grew out of their control (Martínez Pinay

& Guarnaccia, 2007). They also reported preferring to talk with a professional over medication, yet many were unaware that mental health was a specialty service and not something they could access through their primary care providers (Martínez Pinay & Guarnaccia, 2007). Latine participants experiencing major depressive disorder emphasized the need for personal involvement and responsibility in recovery and felt they had to overcome or control depressive symptoms through internal willpower (Vargas et al., 2015). Despite this, personal support networks consisting of families and community members, community/religious involvement, and external social ties have been shown to be assets (Cooper et al., 2023; Raffaelli & Wiley, 2013; Ramos et al., 2022). Thus, for Latine adolescents and adults experiencing depressive symptoms, it is crucial to evaluate the role familial strengths play in mental health care utilization.

Protective Role of Familial Strengths

Within Latine individuals, family support and interconnectedness are important cultural values (Bermudez & Mancini, 2013). According to bioecological theory, the development of Latine adolescents is influenced by proximal processes in which families serve as a key, configuring system (Bronfenbrenner & Morris, 1998; García Coll et al., 1996; Updegraff & Perez-Brena, 2023). Families are considered open systems that can be impacted by cultural and psychopathological influences, especially during developmental periods of change or transition (Updegraff & Perez-Brena, 2023). Marginalization in the broader U.S. society is one such impact on Latine families (Flores et al., 2010; McCord et al., 2019; Raffaelli & Wiley, 2013; Vázquez et al., 2024). Worldwide, parents of adolescents share the responsibility for providing protection, warmth, support, behavioral control, and monitoring, but these responsibilities can be negotiated differently across cultural contexts (Lansford et al., 2023). For instance, within the

United States, there is great diversity in family makeup and in the evolving social contexts in which families grow up (Hussong et al., 2023). Because of this, there is a need to prepare them to deal with a world that may reject them for their differences (Hussong et al., 2023; Sirin et al., 2020; Yan et al., 2024).

For Latine families, it is vital to consider not only the cultural assets that parents and adolescents can bring to their familial relationships but also how this relates to their mental health (Pereira et al., 2023; Updegraff et al., 2021; White et al., 2023). Parents' ability to successfully undertake parental responsibilities is affected by their own mental health (Dixon De Silva et al., 2020; Simpson et al., 2024; Wasserman et al., 2021). Their own depressive symptoms may impact mothers' capacity for warmth or fathers' increased hostility, which can negatively impact parent-adolescent relationships (Shafer et al., 2017). For Latine adolescent depressive symptoms, previous studies have established the protective role of familial strengths in the form of support, warmth, and familial resilience (Ramos et al., 2022; Simpson et al., 2024). For Latine adolescents whose mothers were depressed, they held a broad understanding of the causes behind their mothers' diagnoses, including: mothers' sense of duty to the family, fear of or anticipated grief over loved ones, or even self-attributions that it was caused by the adolescents' actions, which added stress for mothers (Valdez et al., 2019). When facing this, adolescents reported relying heavily on their peers, extended family, and especially fathers for emotional support when their mothers were navigating depression (Valdez et al., 2019).

Yet, there is limited research considering both Latine mothers' and fathers' depressive symptoms in relation to their ability to provide support. There is also a limited understanding of how parental support impacts adolescents' symptoms over time, or how this impacts Latine adolescents' mental health care utilization. Thus, it is necessary to explore the role that these

familial strengths have in either moderating the relationship between family members' depressive symptoms and adolescents' mental health care utilization or mediating the relationship between parents' depressive symptoms and adolescent depressive symptoms, thus impacting adolescents' mental health care utilization over time.

Another key cultural value to Latine families, familism, emphasizes the importance of support, loyalty, honor, and obligation to the family unit (Perreira et al., 2023; Cahill et al., 2021; Knight et al., 2010; Sabogal et al., 1987). Higher familism values are related to lower levels of depressive symptoms among Latine adolescents, but these associations vary across development and measures of familism (Cahill et al., 2021; Cupito et al., 2016; Stein et al., 2014; Zeiders et al., 2016). Familism can be a source of strength and resilience in the face of depressive symptoms among adolescents (Piña-Watson et al., 2019; Cupito et al., 2016; Stein et al., 2014; Valdivieso-Mora et al., 2016), but less is known about the role of familism for the interrelations among mother, father, and adolescent depressive symptoms.

Research indicates that certain aspects of familism can negatively impact family relationships by promoting putting family members ahead of oneself and highlighting how generational mental health struggles can affect both parent and child well-being (Calzada et al., 2013). When adolescents and their parents have differing familism views, this can increase intercultural conflict and impact mental health (Bámaca-Colbert et al., 2012). Furthermore, parents' perceptions of familism can shape their parenting practices and influence their depressive symptoms (Stein et al., 2014; Perez-Brena et al., 2015). For instance, Latine adults endorsing higher familism values tend to report fewer depressive symptoms (Toro et al., 2019). However, caregiving responsibilities can complicate this, as higher familism values in Latine adults may lead to greater depressive symptoms due to more filial responsibilities (Toro et al.,

2019; Almeida et al., 2025; Calzada et al., 2013). Thus, understanding how parents' familial values may be associated with their own and their adolescents' depressive symptoms over time is another aim of this dissertation.

Overall, research has shown parental depression to be a risk factor for their children's depression, and family and cultural strengths as protective factors. However, less is known about the enduring nature of these risks and protective factors as adolescents enter young adulthood and later, in mid-adulthood, or whether these risks and strengths operate similarly across Latine cultural subgroups. In addition, very little research exists that considers these family factors for mental health care utilization among Latines.

Depression Symptomology and Mental Health Care Utilization

There has been some research on the relationship between adolescents experiencing depressive symptoms and their willingness to seek out/utilize mental health care services. In a model for ethnic minority adolescents, three steps have been identified for this process: (1) problem recognition or the perceived need for services, (2) decision to seek treatment (e.g., coercive, or voluntary), and (3) service selection (e.g., informal support systems, or formal mental health service) (Cauce et al., 2002). As it stands, multiethnic adolescents who exhibit higher emotional disturbances are more likely to seek out mental health services (Boerema et al., 2016; Cauce et al., 2002; Cummings, 2014; Magaard et al., 2017; Offer et al., 1991). According to the seeking mental health care model (McLaren et al., 2023), individuals with higher self-identification of mental health symptoms exhibited higher help-seeking intentions from a professional source.

Overall, reports of mental illness and mood disorders have increased among adolescents and young adults within the U.S. over the past decade (Substance Abuse and Mental Health

Services Administration (SAMHSA), 2025). Health care services and public health policies can improve mental health across the life course by fostering positive habits and equipping people to navigate the current health care system (Park et al., 2023). However, 40% of adolescents (1.5 million adolescents) with a major depressive episode (MDE) in the past year did not receive mental health treatment within that year, with 42.4% of those adolescents perceiving that there was an unmet need for mental health treatment (SAMHSA, 2025). Adolescents reported the most common reason for not receiving treatment was the thought that they should be able to handle their emotions/mental health on their own (90.5%), and 70.5% were worried about what others would think/say if they received treatment (SAMHSA, 2025).

The Health Impact Pyramid (HIP) is a 5-tier pyramid in which efforts to address socioeconomic factors are at the base, followed by making healthy decisions the default, preventive medicine, medical care, and counseling and education at the top (Frieden, 2010; Grabbe et al., 2023). Most programs that are available for Latine families are at the top of the pyramid as they require lower health impact and higher individual effort in the form of mental health literacy and services. Thus, it is crucial to ground this dissertation in the understanding that there are current health care barriers to mental health utilization in the United States, such as limited access to health insurance and mental health care stigma (Park et al., 2023).

Adolescents are extremely reluctant to seek help even after recognizing their problems (Cauce et al., 2002). Internalized stigma around experiencing mental health symptoms is a significant barrier for individuals to seek mental health care (Arnaez et al., 2020; Clement et al., 2015). For example, internalized stigma was found to be more important than perceived stigma in predicting overall barrier endorsement among college students (Arnaez et al., 2020). Among adolescents, there may also be an unwillingness to seek professional help for their symptoms,

instead relying on informal support networks such as peers or family members (Cauce et al., 2002; Cooper et al., 2023; Johnson & Possemato, 2019).

In addition, the role that parents play as custodial guardians is a key component of mental health care utilization. For instance, adolescents usually need their parents' permission, funds, and time to receive mental health services, which can be impacted by cultural stigma, parent-child conflict, socioeconomic status, health insurance, and even parents' own mental health symptoms (Arnaez et al., 2020; Cauce et al., 2002; Cummings, 2014; Shafer et al., 2017). In addition, parents' own perceptions about mental health may impact their willingness to utilize mental health care (Engelhard et al., 2022). For Latina adolescents and their families, negative beliefs about depression, such as it not being real, a sign of weakness, or due to immaturity, were related to poor engagement in mental health care (Stafford & Draucker, 2020). For instance, some Latinas stated that their families faced so many dire struggles during immigration, and thus they were being nonsensical for worrying about their own sad feelings and not appearing strong like their families (Stafford & Draucker, 2020). Conversely, there may be a tendency among parents to ignore some behavioral problems, assuming that adolescents change over time, and those symptoms may dissipate (Cauce et al., 2002; Olcoñ & Gulbas, 2018).

However, parents who themselves are experiencing depressive symptoms may be less sensitive to their children's mental health symptoms (Cauce et al., 2002). Caregivers experiencing depressive symptoms may be more likely to have distorted views of their adolescents' symptoms due to maladaptive thought patterns (Reck et al., 2016). From a meta-analysis across 29 studies on the impact of maternal depression on child mental health care utilization, parents who were also experiencing depressive symptoms were more likely to bring in their adolescent for mental health treatment than themselves (Engelhard et al., 2022). In

addition, maternal depression caused barriers to seeking treatment for their children for a multitude of reasons, such as missing appointments (Engelhard et al., 2022; Gordon et al., 2010) or if mothers were not also receiving psychotherapy (Engelhard et al., 2022; Sherman & Ali, 2017). Also, mothers experiencing depressive symptoms who perceived a higher barrier to care for their child were more likely to terminate services early or not seek out professional services at all (Acri et al., 2018; Kazdin et al., 1997). Thus, it is crucial to understand the role that depressive symptoms, within the individual and their family, play in the intent to seek and utilize mental health care services.

Another important consideration for Latine families is the role that religiosity may play in both experiencing depressive symptoms and in their use of mental health care services. For example, Pentecostal Latine individuals were more likely to endorse spiritual forms of treatment, such as prayer or reading the Bible, rather than psychological treatments (Santos & Kalibatseva, 2019). They recognized that depression was likely a result of social and relational factors (e.g., poor interpersonal relationships), but did not endorse biological causes of depression (e.g., genetics; Santos & Kalibatseva, 2019). Further, during the COVID-19 pandemic, religious Latine individuals reported increased depressive and anxiety symptoms, yet they also highlighted how their faith and trust in God served as a prominent coping mechanism during that time (Joachim-Célestin et al., 2024). Latine participants in a focus group setting asserted that faith in God would heal depression (87%) and that asking God for forgiveness could help with the healing process (Cabassa et al., 2007). While several of the above studies contained heavily Protestant samples, religion also shapes the beliefs of those who practice Catholicism, which tends to be more practiced among Latine individuals in the United States. A focus group of

primarily Catholic Latine adults felt that depression may be an indicator of a lack of faith, interpersonal issues, grief, or a weakness of character (Caplan et al., 2013).

No matter the faith, people tend to use coping as a strategy for coping with mental health struggles. In terms of religious coping, there are both positive and negative forms for individuals (Joachim-Célestin et al., 2024; Pargament et al., 1998). Previous studies have shown that positive religious coping is associated with secure attachment to God, spiritual connectedness, and a strong belief in one's meaning and purpose (Santos & Kalibatseva, 2019; Stege & Godinez, 2022). However, negative religious coping is related to the belief that God is punishing or has abandoned them in response to perceived sinful behavior (Herrera et al., 2009; Joachim-Célestin et al., 2024). For Latine emerging adults at a Christian university, religious coping accounted for 25% of the variance in depressive symptoms, compared with other predictors (e.g., gender, income, residential status (2%); sense of belonging (9%)) (Holloway-Friesen, 2023). Positive religious coping was associated with lower depressive symptoms, whereas negative religious coping predicted higher depressive symptoms (Holloway-Friesen, 2023). Thus, the current dissertation will control for religiosity to see if it is associated with Latine adolescents' depressive symptoms or related to lower mental health care utilization in tandem.

Latine Country of Origin Differences

Latines are often treated as a monolithic group, yet in terms of socialization, it is important to consider subgroup variation as a function of country of origin (Crockett et al., 2005; Martinez Tyson et al., 2016). As it stands, Latine subgroups vary across languages, dialects, traditions, and geographic regions or places of residence within the United States (Crockett et al., 2005; Pina & Martínez, 2025). Thus, it is important to consider how these variations affect Latine adolescents' development and navigation within the U.S. context.

Based on colonization histories, Latine subgroups tend to have different religious beliefs (e.g., Mexican-origin individuals are mainly Catholic, while other Latine groups, like Salvadorian-origin individuals, may also be Protestants), and these can influence their political views as well (Funk & Martínez, 2014; Pina & Martínez, 2025). From 2016 to 2024, we have seen a shift in the political leanings of Latine subgroups, with Mexican and Puerto Ricans moving from mostly Democratic to more Independent (Wakefield et al., 2025). In contrast, Cuban Americans, who have traditionally been seen as a stronghold of conservatism, tend to switch between Democratic, Republican, and Independent affiliations, showing more change than before (Wakefield et al., 2025). When considering depression and mental health care utilization, these political and religious beliefs may factor into how depressive symptoms are experienced and in the willingness to seek psychological services.

Regionally, Mexican-origin populations are highest on the West Coast and in the Southwestern U.S., while Dominicans and Puerto Ricans are the largest Hispanic-origin groups in the Northeast (Pina & Martinez, 2025). Notably, the South is very diverse in its Hispanic population, with the largest share of Cubans located in Florida (Pina & Martinez, 2025). Additionally, other Latine subgroups find themselves on the sidelines due to language differences (e.g., Portuguese versus Spanish) (López et al., 2026). Thus, previously mentioned barriers, such as language, may be difficult to overcome for some Latine individuals, especially when bilingual services are offered only in Spanish (López et al., 2026; Martínez Pinay & Guarnaccia, 2007).

Based on these differences in socialization, there may also be differences between Latine subgroups approach to mental health and treatment options. Some prior work shows that compared to Mexican, Cuban, and other Latine adults, Puerto Rican adults report higher levels

of both depressive symptoms and mental health care utilization (Alegría et al., 2007).

Additionally, a nationally representative sample found that compared to Puerto Rican adults, Mexican American adults with a mood disorder were less likely to utilize services (Keyes et al., 2012). In addition, subgroup differences emerged in sources of care provision, where Cuban women were more likely than Puerto Rican women to receive services from mental health specialists; and, compared to Puerto Ricans, Mexicans with a psychiatric disorder were more likely to receive mental health services from a general practitioner (Lee & Held, 2015).

Currently, numerous factors predispose Central American immigrants to disadvantage, including economic instability, political violence, immigration-related stressors, food insecurity, natural disasters, and crime, all of which may influence the development of depressive symptoms into adulthood (Ruiz-Soto et al., 2021; Hernández Dubon et al., 2024). Moreover, many immigrants, particularly men, encounter mass detentions and deportations, which hinder their ability to establish social ties within the United States (Golash-Boza & Hondagneu-Sotelo, 2013; Gonzales & Raphael, 2017; Galvez et al., 2025).

Among South Americans, prior research indicates that they generally exhibit lower average levels of depressive symptoms compared to their Latine counterparts, such as Puerto Ricans and Dominicans, with negative problem orientation emerging as the most significant predictor of symptomatology, accounting for 60.5% of the variance (Chang et al., 2026).

Additionally, perceived family social support at moderate to high levels is linked to substantially improved odds of recovery from depressive symptoms among South American early adolescents and young adults over time (Godoy-Casasbuenas et al., 2025). Thus, these external factors may relate to depressive symptoms and mental health care utilization (Chang et al., 2014; Ruiz-Soto et al., 2021).

Qualitative focus groups found that there was consistency in views of depression and its causes (i.e., social isolation, social stressors, grief) across all Latine subgroup participants (Martínez Pinay & Guarnaccia, 2007). Additionally, depressive symptoms tend to fluctuate across the lifespan for Mexican, Cuban, Puerto Rican, and Central/South American groups, especially during adolescence (Taylor et al., 2024; Benjet et al., 2020; Cicchetti, 2023; Cruz et al., 2021). Regional variations in the availability of mental health services—such as being more common in the West than in the Midwest—may also influence how Latine families engage with mental health services and healthcare utilization (Taylor et al., 2024). Nonetheless, it is important to examine country of origin subgroups among Latine adolescents and young adults concerning depressive symptoms and mental health care use. These socialization differences might influence how parents raise their adolescents in the U.S. and how this, in turn, affects their perspectives on depressive symptoms and seeking mental health care.

Sex Differences in Depressive Symptomology

An individual is socialized through their environments, learning the values, beliefs, and societal expectations associated with their biological sex (Bonilla & Piña-Watson, 2025; Perrotte & Zamboanga, 2021). Within Latine culture, traditional sex-based gender roles continue to play an important role in how families are organized and structured (Miville et al., 2017; Nuñez et al., 2016; Raffaelli & Ontai, 2004). In Latine culture, *marianismo* is described as having multiple dimensions: (1) Family Pillar, which places women as the main source of strength within the family; (2) Virtuous and Chaste, which holds that women should be morally pure; (3) Subordinate to Other, which reflects the belief that women should be obedient to the hierarchical power structure; (4) Silencing Self, which is the belief that women should not share personal thoughts to maintain harmony in relationships; and (5) Spiritual Pillar, which is the belief that

women serve as the spiritual leaders in their families (Castillo et al., 2010; Gallegos & Segrin, 2024). Machismo is defined as a set of values and behaviors that traditionally guide how a man should be, with an emphasis on hypermasculinity, dominance, control, and power (Arciniega et al., 2008; Bonilla & Piña-Watson, 2025; Miville et al., 2017). Additionally, caballerismo focuses on the responsibility and emotional connectedness of Latino men (Arciniega et al., 2008; Miville et al., 2017). Stemming from the code of masculine chivalry, caballerismo is showcased as the positive side of machismo that focuses more on respectful manners, being a gentleman, and living by a code of ethics (Arciniega et al., 2008).

For Latinas, higher endorsement of marianismo, specifically the Family Pillar subscale, was associated with depressive and anger symptoms. For Latinos, higher endorsement of machismo was associated with higher anxiety and cynical hostility but not with more depressive symptoms (Nuñez et al., 2016). For Latino men, higher levels of machismo were significantly related to depressive symptoms (Wuyke et al., 2023). Additionally, greater adherence to machismo was linked to a more negative reception context in the United States (i.e., increased perception of hostility toward Latine immigrants), which was significantly related to higher depressive symptoms. For Latina mothers experiencing cultural stress, most expressed a willingness to endure their stressors due to a commitment to their families' well-being, thus showcasing how mothers take on the pillar of support role and place strong emphasis on their families' needs over their own (Alvarez-Frank et al., 2026). Thus, the current dissertation examines parental warmth and involvement separately to gauge how Latine adolescents' perceive their mothers and fathers parent differently, especially while experiencing depressive symptoms.

Sex differences in depressive symptoms for Latine samples of adolescents and adults are well documented (Lerner, 1995). For instance, Latine females report higher depressive symptoms than Latine males across many studies (Benjet et al., 2020; Behnke et al., 2011; Reyes et al., 2025; Abrams et al., 2005). Female adolescents are also more likely to report experiencing negative ruminating thoughts than male adolescents (Conley et al., 2023). However, male adolescents are more likely to report experiencing more externalizing behaviors when experiencing depressive symptoms than female adolescents (Carrizales et al., 2025). However, research shows that sex differences in depressive symptom trajectories are not always consistent. For example, female sex may significantly predict the onset of depressive symptoms during adolescence, yet it does not necessarily predict the recurrence of symptoms over time (Benjet et al., 2020; Stein et al., 2022).

Moreover, there are sex differences in how parental depressive symptoms influence female and male adolescents' depression across time (Eckshain et al., 2018; Pineros-Leano et al., 2021). A majority of the literature has focused on the impact of the mother-child relationship on depressive symptoms and family strengths (Reyes et al., 2025; Thomas et al., 2019; Griffith et al., 2024). However, Latine fathers play a key role for both Latine girls and boys, making it important to explore the sex differences involved (Agerup et al., 2015; Cabrera & Bradley, 2012; Thompson & Henrich, 2022). Male adolescents might identify more strongly with their fathers' depression than with their mothers', and the opposite may be true for females (Connell & Goodman, 2002; Thompson & Henrich, 2022). Additionally, previous research has shown that fathers' involvement and support were more strongly associated with the well-being of their sons than with that of their daughters when addressing externalizing behaviors (Gryczkowski et al., 2010).

When it comes to the father-daughter relationship, previous research has indicated that positive, supportive relationships are associated with lower levels of depression and better adjustment across adolescence and early adulthood (Videon, 2005; Fletcher et al., 2021; Piña-Watson & Castillo, 2015). Although Latine men have been portrayed as strict or distant, other research has shown that they can be emotionally attuned and loving toward their children (Perez-Brena et al., 2012). For daughters, Latine men described their role as protector, especially in the face of depressive symptoms or other external stressors (O’Gara et al., 2022). Given these sex differences in depression, sex, including the associated cultural gender roles, was considered a potential moderator in analyzing the relationships among depressive symptoms, family strengths, and mental health care utilization.

Theoretical Frameworks

Critical Race Theory & LatCrit Frameworks

Critical Race Theory (CRT) posits that racism is normal within American society due to its enmeshment within the fabric of the social order and that White Americans have been the primary beneficiaries of civil rights legislation (García et al., 2022; Ladson-Billings, 1998). Latine individuals experience racialization differently from other racial/ethnic groups due to their unique migration experiences in the U.S. context (S. J. García et al., 2022; Huber, 2009). Thus, Latino/a Critical Race Theory (LatCrit) was created to examine the salient experiences of Latines with migration, discrimination, and the navigation of the world around them (Bernal, 2002; Huber, 2009; Solorzano & Yosso, 2001). The core aims of this framework are: (1) Revealing injustices caused by oppression, (2) Challenging dominant Eurocentric ideologies, (3) Validating experiential knowledge, (4) Acknowledging the power of human collectivity, and (5)

Commitment to racial and social justice (Huber, 2009). The current dissertation centers Latine families as the experts on their own reports of mental health symptoms, mental health care utilization, and perceptions of family strengths (Solorzano & Yosso, 2001). CRT can be beneficial to our understanding of mental illness using a cultural lens, validating experiential knowledge of Latine families, and how adaptive cultural mechanisms, such as familism, can help protect against the effects of internalizing symptoms among Latin adolescents (Stein et al., 2014; Galvan et al., 2024; Levin, 2022).

Family Systems Framework

Family systems theory aimed to understand and conceptualize the family as a system (Cox & Paley, 1997). Within this framework, families consist of interdependent individuals and subsystems in which each level (i.e., family, inter, individual systems) seeks to maintain equilibrium to function (Minuchin, 1974). These subsystems exist within the larger family system and consist of three main relationships: marital, parental, and sibling subsystems (Minuchin, 1974). A core tenet of family systems theory revolves around adaptive self-stabilization and adaptive self-organization (Cox & Paley, 1997, 2003). This tenet reflects the homeostatic nature of systems that can adapt to changing conditions outside the family environment by altering the internal family system and enabling these subsystems to challenge the existing outside system (Cox & Paley, 1997, 2003).

In terms of Latine adolescent development, there is a need to manage the spillover effect (i.e., the transfer of mood/affect or behavior across subsystems) of their external environment via discrimination, acculturation, or racism (Erel & Burman, 1995; James et al., 2018; Young et al., 2021). These external factors can permeate and interact with the family system and subsystems, which aligns with the bioecological theory. In addition, Latine adolescents' connectedness with

their parents (the parent-child subsystem) may serve as a bi-directional impact due to the potential spillover effect of their parents' depressive symptoms impacting their own. Thus, this theory can help us gain perspective on how the individual family unit manages external and internal challenges and how Latine families seek to return to equilibrium.

Bioecological/Cultural Resilience Frameworks within Immigrant Families

Ecological systems theory presents a complex system of interdependent systems that affect individuals and their development (Bronfenbrenner, 1977). It encapsulates the individual, familial, social, and cultural factors and how interactions among them influence families and their members (Tudge et al., 2022). Under family ecological theory, individuals are influenced by their family environments and thus adapt to and influence them reciprocally (Bronfenbrenner & Morris, 2006; Bronfenbrenner & Morris, 1998; Bronfenbrenner, 1999).

However, one of the biggest criticisms of Bronfenbrenner's bioecological theory is the lack of clarity regarding the notion of culture, including how it is operationalized and how proximal processes (i.e., processes by which the developing person interacts within their close environment/subsystems) operate in his last iteration (Bronfenbrenner & Morris, 2006; Vélez-Agosto et al., 2017). Culture should not be seen as a separate macro-system variable but should be a factor at every system level (Vélez-Agosto et al., 2017; García Coll et al., 1996). Thus, the Integrative Risk and Resilience (IRR) Model for Immigrant Origin Children and Youth (IOC&Y) was developed to integrate previous iterations of ecological development for IOC&Y and to demonstrate how cultural risks and resilience factors are present at various sub-levels of the developing person (Suárez-Orozco et al., 2018). This model aims to situate IOC&Y development within the individual, microsystem (e.g., neighborhood, families, school), political-social contexts, and global (e.g., migration, socialization) levels (Suárez-Orozco et al., 2018).

Thus, cultural forces may both hinder and promote the positive adaptation of children and adolescents and emphasize the promotive impact of individual-level characteristics such as developmental competencies, psychological adjustment, and acculturative tasks (Motti-Stefanidi, 2023; Suárez-Orozco et al., 2018).

Previous research utilizing this risk and resilience framework includes examining trajectories of discrimination within Chinese American adolescents (Wei et al., 2023), mental health service utilization and social support amongst Latine families with suicidal adolescents (Buitron et al., 2023), and navigating oppression with the assistance of mentors for Mexican, undocumented immigrant adolescents (Sánchez et al., 2022). In considering the broader macro-system, adaptive cultural socialization systems may be present for Latine families, promoting or undermining the development of adolescent competencies depending on the adolescent's environments, family systems, and age (White et al., 2018). Applying the IRR model for Latine adolescents and their families involves consideration of how their immigrant-origin experiences with acculturation, systemic oppression, migration, ethnic-racial socialization, and their families' beliefs/experiences intersect with the development of the individual's psychological adjustment regarding internalizing symptoms (Marks et al., 2013; Suárez-Orozco et al., 2018; White et al., 2018). In this dissertation, broader cultural influences were evaluated by comparing Latines from different countries of origin and examining cultural factors relevant to family systems, such as the degree of familism, in relation to depression and mental health care utilization.

Theoretical Synthesis

Building on previous ecological models, the Integrative Risk and Resilience (IRR) Model would capture the potential immigrant-origin experiences of Latine families and how cultural values/stressors at the macro level, as well as familial experiences at the micro level, intersect

with the development of depressive symptoms. Additionally, the IRR would inform how different Latine subgroups may have differential experiences due to their distinct socialization, migration experiences, and citizenship status when it comes to the development of depressive symptoms and utilization of mental health care. Additionally, LatCrit would allow us to better define how structural factors, such as economic factors and barriers to health care, are at play when it comes to the decision to seek mental health services. Family systems theory further informs how familial strengths could serve as a protective moderator for depressive symptoms over time. In addition, it would lend a standpoint on how interfamilial depressive symptoms develop over time and how their inter-familial strengths could buffer against those symptoms.

CHAPTER 2 : FAMILY STRENGTH INFLUENCES ON LATINE ADOLESCENT TO ADULT TRAJECTORIES OF DEPRESSIVE SYMPTOMS & MENTAL HEALTH CARE UTILIZATION IN THE U.S

Introduction

Latine adolescents, nationally, are at a higher risk for the development of depressive symptoms (Behnke et al., 2011; Benjet et al., 2020). In addition, Latine adolescents are less likely to seek and receive mental health care treatment compared to White adolescents (Delphin-Rittmon, 2022; Galvan & Gudiño, 2021; Simpson et al., 2024). Thus, it is vital for researchers to examine risk or protective factors for depression among Latine adolescents to improve overall depressive symptoms trajectories.

Within Latine culture, strong familial relationships, familial interconnectedness, and strong support are integral cultural values that Latine adolescents can rely on when dealing with internalized stressors, such as depressive symptoms (Bermudez & Mancini, 2013). Thus, it is important to examine how early family support and parental warmth, which have been shown to decrease depressive symptoms in Latine adolescents (Pereira et al., 2023; Updegraff et al., 2021; White et al., 2023), can support these adolescents into adulthood. Although parental engagement may look different for Latine families due to time constraints (e.g., parents work late nights and can't help their children with homework), prior research has shown that it remains an important dimension of parenting (Plunkett et al., 2009). Additionally, it is important to examine if family strengths in adolescence impact depressive symptoms long-term into adulthood and may moderate the relationship between symptoms and utilization for Latine adolescents.

Adolescents as a whole show a reluctance to seek out mental health care services, even after recognizing their symptoms (Cauce et al., 2002; McLaren et al., 2023). Parents can play a

key role in this relationship as custodial guardians, especially if the parents are either supportive or unwilling to assist adolescents' mental health journey (Cauce et al, 2002; Olcón & Gulbas, 2018). Generally, individuals who identify that they are experiencing mental health symptoms are more likely to seek out mental health services from a professional source (McLaren et al., 2023). However, Latine families are more likely to rely on family support networks or to push their symptoms down (Arnaez et al., 2020; Clement et al., 2015; Engelhard et al., 2022; Pineros-Leano et al., 2021; Cooper et al., 2023).

Depression & MHC Utilization in Latine Subgroups

Latine individuals are generally seen as a monolithic group; however, prior research has shown this not to be the case when it comes to depressive symptomology and utilization of mental health care services (Crockett et al., 2005; Martinez Tyson et al., 2016). For instance, Cuban immigrants place more emphasis on working through one's problems without mental health care utilization as opposed to Puerto Rican individuals (Martinez Tyson et al., 2016). Another consideration for Latine subgroups is their differential exposure to political violence, abuse, discrimination, or other contextual factors leading to their migration to the U.S. (Fortuna et al., 2008; Montero-Zamora et al., 2024). For instance, Cuban immigrants reported more exposure to political violence compared to other Latine subgroups, especially Mexicans (Fortuna et al., 2008), which could impact their mental health.

Considering trajectories of major depressive disorder (MDD), Puerto Ricans showed a higher risk of onset in their 20s and 30s, Cubans showed a relatively stable risk over time, and Mexicans had an increased risk until their 30s, which gradually decreased after that (Lee & Park, 2017). Mexican immigrant parents reported experiencing higher levels of depressive symptoms compared to other subgroups of Latine parents (Montero-Zamora et al., 2024). For Puerto Rican

mothers experiencing mental illness, their children have an increased risk for a mental health impairment compared to Mexican-origin parents and children (Platt et al., 2020).

Also, Mexican individuals were less likely than Puerto Rican individuals to utilize mental health care over their lifetime (Berdahl & Torres Stone, 2009; Fortuna et al., 2008). Also, over 12 months, Cuban individuals were less likely to use mental health care than Puerto Rican individuals (Fortuna et al., 2008). Puerto Rican individuals have reported higher rates of major depression, while Mexican American individuals were more likely to report recurrent depressive episodes compared to non-Latino Whites (Alcántara et al., 2015; López et al., 2012). This shows that there are significant differences between Latine subgroups that should be examined with respect to depressive symptoms and utilization.

Previous Research using Add Health

The current project builds upon previous research using our proposed data source: Add Health, a nationally representative study of adolescents followed into adulthood (Resnick, 1997). Using this data, Estrada-Martínez and colleagues (2019) examined trajectories of depressive symptoms among Latines aged 13 to 32 and tested variation by ancestry, gender, and immigrant generation. Additionally, they examined the long-term associations among depressive symptoms, sense of belonging, and neighborhood environment. Looking across four waves of the Add Health data with a sample of 1,445 Latine participants, they delineated four ancestry groups: Mexican, Cuban, Puerto Rican, and Other Latine (primarily Central & South American descent). They found that there were differences between Cuban- and Mexican-origin Latines in depressive symptoms in adolescence, but no differences across country of origin in changes in depressive symptoms over time. Additionally, they found that for Cuban and Other Latine adolescents, a greater sense of overall belonging in the U.S. was related to decreases in

depressive symptoms into adulthood. However, the opposite was found for Mexican-origin adolescents (Estrada-Martínez et al., 2019).

Also using Add Health, Piña-Watson and Castillo (2015) examined the impact of perceived parental caring, parents' interest in their child's academics, and parental connectedness on Latina adolescents' depressive symptoms. Using 276 Latina adolescents from Wave 1 (1994-1995), when they were between the ages of 12 and 18 years, they found that the connectedness with mothers and fathers buffered against girls' depressive symptoms. Additionally, mothers' and fathers' connectedness with their daughters was found to mediate the relationship between parental caring and Latina depressive symptoms (Piña-Watson & Castillo, 2015).

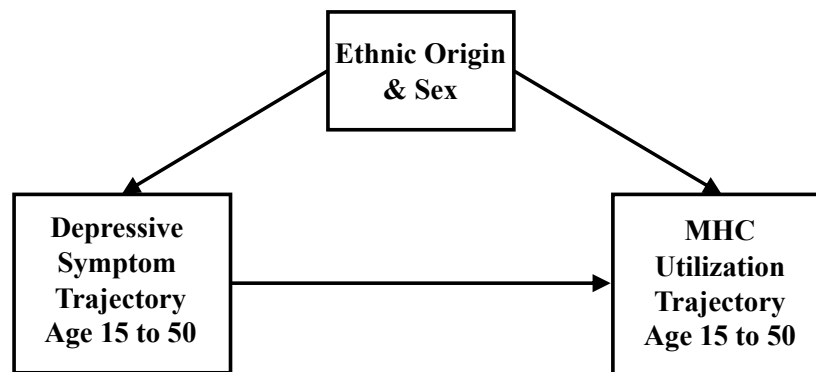
The Present Study

The Add Health data set will provide externally valid estimates of associations between depressive symptoms and mental health care (MHC) utilization over an extended period and how family strengths in adolescence impact these. This data also allows comparisons among Latines from the three largest national-origin subgroups in the U.S. (U.S. Census Bureau, 2023). This study will estimate the interrelations among trajectories of depressive symptoms and mental health care utilization from adolescence to middle-adulthood for Latines and examine familial strengths during adolescence as a predictor of depressive symptoms and moderators of the associations between depressive symptom trajectories and health care utilization. In addition, depressive symptom and MHC utilization trajectories were compared across Latine national origin subgroup (i.e., Mexican, Cuban, Puerto Rican). Moderation of the association between family factors with depressive symptoms and MHC use by sex and Latine national origin subgroup was also explored.

H1: Depressive symptoms trajectories will be positively associated with mental health care utilization from adolescence to mid-adulthood (see Figure 2).

Figure 2.

Association of Adolescence to Adulthood Trajectories (H1) with Exploration of Ethnic and Sex Differences



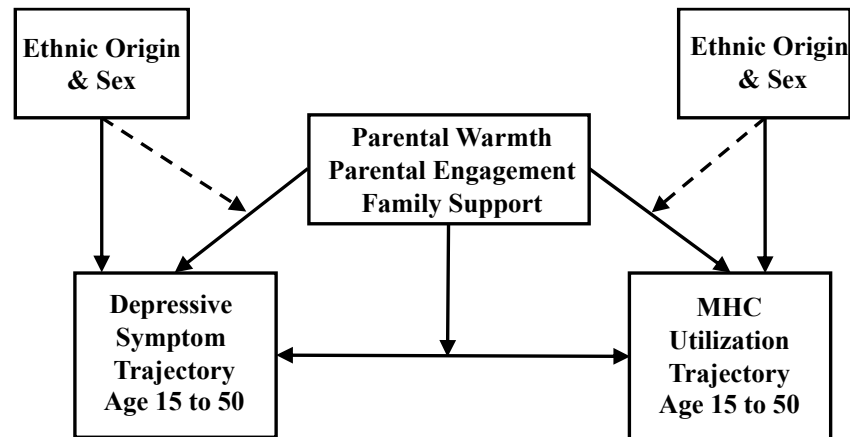
H2: Familial strengths in adolescence will be negatively associated with depressive symptoms trajectories (see Figure 3).

H3: Familial strengths will be positively associated with mental health service utilization directly and indirectly through depression symptoms (see Figure 3).

H4: Familial strengths in adolescence will moderate the association between depressive symptoms trajectories and mental health services utilization, such that the positive association will be strengthened under conditions of high parental warmth, engagement, and family support (see Figure 3).

Figure 3.

Role of Family Strengths for Adolescence to Adulthood Trajectories (H2-4) with Exploration of Ethnic and Sex Moderation



H1m–H3m: Depressive symptom and MHC use trajectories and their associations with family strengths will differ across subgroups.

Methods

Data & Procedures

Data come from the National Survey of Adolescent to Adult Health (Add Health), a nationally representative sample of US adolescents from 80 high schools and 52 middle schools (Harris, 2013). Systematic sampling and implicit stratification were used to ensure representativeness by region of the country, school size, school type, and ethnicity (Harris, 2013). The prospective cohort study included over 20,000 adolescents in grades 7-12, aged 11-21 at the start. Participants completed an in-school questionnaire and a 90-minute in-home survey in wave I (1994-1995; 79% response rate) and were then surveyed in subsequent, follow-up interviews: in grades 8-12 in wave II (1996; 88.6% response rate), ages 18-26 in wave III

(2001-2002; 77.4% response rate), ages 24-32 in wave IV (2008; 80.3% response rate (Harris, 2013)), ages 33-43 in wave V (2016; 62% response rate), and ages 39-50 in wave VI (2022-2025; 60% response rate). Surveys included audio-computer-assisted self-interviews (audio-CASI) conducted on laptops for sensitive health and risk-behavior questions (Harris, 2013). At wave I, over 1,500 respondents reported speaking Spanish at home, and over 400 interviews were conducted in Spanish. Interview transcripts were then translated into English.

Sample

There were 3,230 self-identified Hispanics in the Add Health representing 2,687,599 Hispanics in the population at Wave I (1994-1995). Table 1 provides the population breakdown in terms of self-reported country of origin and race. Over half (60%) of the sample reported being of Mexican/Chicano background. The next largest groups were from Central or South America (14%), followed by Puerto Ricans (13%), other Hispanic (12%), and Cuban (6%). The majority reported their race as other (48%) followed by White (43%) with only small proportions reporting Black, Native American, or Asian (all $\leq 5\%$).

Table 1.*Population Total and Mean Estimates for Race and Ethnic Origin (Wave I)*

Variable Name	<i>n</i>	<i>N</i>	<i>mean</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
<i>Origin (n=3,218)</i>						
Mexican/Chicano	1,639	1,582,209	0.60	0.07	0	1
Cuban	516	166,934	0.06	0.03	0	1
Puerto Rican	592	353,924	0.13	0.03	0	1
Central or South America	362	363,111	0.14	0.03	0	1
Other Hispanic	287	317,653	0.12	0.02	0	1
<i>Race (n=3,212)</i>						
White	1,458	1,150,771	0.43	0.03	0	1
Black	108	71,999	0.03	0.01	0	1
Native	139	121,152	0.05	0.01	0	1
Asian	62	36,216	0.01	0.00	0	1
Other Race	1,454	1,280,602	0.48	0.03	0	1

Population estimates for demographics and study variables for Wave I are provided in Table 2. Seventy-one percent of adolescents were born in the US and 73% were US citizens at birth. Forty-six percent of moms and 42% of dads were born in the US. Almost half (43%) of the adolescents indicated that they primarily spoke Spanish at home and 11% opted to complete their surveys in Spanish. Just over half the parents earned a high school degree and 10% earned a bachelor's degree as their highest degree. Just over half (52%) of the parents were married. About 17% of the adolescents' families received welfare and the average total household income was \$33,140. Seventy percent of the parents reported that their adolescent had health insurance. By waves IV and V, when adolescent respondents reached their late 20's to mid-30's, 89% had earned a high school diploma, 23% a college degree, and 7% an advanced degree.

Table 2.*Wave I Population Estimates and Sample Sizes for Study Variables*

Variable Name	<i>n</i>	<i>mean</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
Male Sex	3,230	0.51	0.01	0	1
Age in Years	3,228	16.02	0.22	11.4	20.9
Spanish in Home	3,228	0.43	0.04	0	1
Spanish Interview	3,224	0.11	0.02	0	1
US Born	2,809	0.71	0.03	0	1
US Citizen	2,809	0.73	0.03	0	1
Mom US Born	3,037	0.46	0.04	0	1
Dad US Born	2,214	0.42	0.04	0	1
Parents Age	2,655	40.92	0.28	20	86
Parents Married	2,661	0.52	0.03	0	1
Parent HS Degree	3,117	0.52	0.03	0	1
Parent BA/BS Degree	3,117	0.10	0.01	0	1
Received Welfare	3,192	0.17	0.02	0	1
HH Income (\$1,000s)	2,219	33.14	1.91	0	999
Proportion Hispanic (Census Tract)	3,215	0.38	0.31	0	0.96
Mom Happy	2,561	0.93	0.01	0	1
Dad Happy	1,474	0.90	0.01	0	1
Mom Physical Health	2,597	3.35	0.05	1	5
Dad Physical Health	1,931	3.40	0.05	1	5
Health Insurance	2,672	0.70	0.03	0	1
Physical Health	3,230	2.21	0.03	1	5
Received Physical Exam	3,216	0.57	0.50	0	1
Religiosity Scale	2,894	3.06	0.03	1	4.3
Teachers Care	3,183	3.53	0.04	1	5
Friends Care	3,196	4.13	0.02	1	5
Mother Engagement	3,168	3.74	0.08	0	10
Father Engagement	2,782	2.75	0.09	0	10
Mother Warmth	3,218	4.51	0.02	1	5
Father Warmth	3,219	4.32	0.02	1	5
Parental Warmth Scale	3,208	4.41	0.02	1	5
Family Support Scale	3,208	3.84	0.04	1	5
<i>Highest Education W4/W5</i>					
High School Graduate	2,358	0.89	0.01	0	1
College Graduate	2,358	0.23	0.02	0	1
MS or Higher Graduate	2,358	0.07	0.01	0	1

Measures

All measures were administered in either English or Spanish (Harris, 2013).

Documentation for the Add Health family measures are reported in English, as per the codebook, within Tables A1-3 (see Appendix A).

Depressive Symptoms. Depressive symptoms were assessed at all six waves using five items from the 20-item Center for Epidemiological Studies Depression Scale (Radloff, 1977; CESD). Participants reported how frequently they experienced specific thoughts or emotions over the past week. Responses ranged from 0 (*Rarely or none of the time [less than 1 day]*), to 3 (*Most or all of the time [5-7 days]*). In prior work (Coppola et al., 2024a; Coppola et al., 2024b), they developed a 5-item depressive symptoms measure using items assessed across the waves. The items included: *could not shake off the blues*, *felt sad*, *felt depressed*, *enjoyed life* (reverse-coded), and *felt happy* (reverse-coded). The measure was factor analyzed and established measurement invariance across gender and time.

Mental Health Care (MHC) Utilization. Respondents' MHC utilization was assessed at all six waves. Respondents were asked: "*In the past year, have you received psychological or emotional counseling?*" Response options were *yes* or *no*.

Parental Warmth. Parental warmth was assessed at Waves I and II when respondents were in adolescence. All questions were asked separately about both mothers and fathers. Adolescent respondents were asked: 1) *Most of the time, your mother/father is warm and loving toward you* with response options ranging from 1 = *strongly disagree* to 5 = *strongly agree*; 2) *How much do you think she/he cares about you?* with response options from 1 = *not at all* to 5 = *very much*; and 3) *How close do you feel to your mother/father?* With response options from 1 = *not at all* to 5 = *very much*. Scales were derived as the average of the items across both waves (approximately 1 year apart). See Appendix A, Table A1 for more details on these items.

Parent Engagement. Parental engagement was assessed at Waves I and II when respondents were in adolescence. One question was asked about a series of activities that parents engaged in with their adolescent (the respondent). The question was asked separately about both mothers and fathers. Adolescent respondents were asked, “*Which of the things listed on this card have you done with your mother/father in the past 4 weeks?*” and response options were *yes* or *no* to the following: *gone shopping; played a sport; gone to a religious service or church-related event; talked about someone you’re dating, or a party you went to; gone to a movie, play, museum, concert, or sports event; had a talk about a personal problem you were having; had a serious argument about your behavior; talked about your school work or grades; worked on a project for school; talked about other things you’re doing in school; and none*. Response options for each activity were 1 = *yes* or 0 = *no*. A sum score for these activities were used separately for mothers and fathers, with a response of ‘*none*’ coded as 0. Scales were derived as the average sum of items across both waves. See Appendix A, Table A2 for more details on these items.

Family Support. Family support was assessed at Waves I and II when respondents were in adolescence. Four items were combined in a mean score. Adolescent respondents were asked the following: 1) *How much do you feel that people in your family understand you?*, 2) *How much do you feel that you want to leave home?* (reversed), 3) *How much do you feel that you and your family have fun together?*, and 4) *How much do you feel that your family pays attention to you?* Response options ranged from 1 = *not at all* to 5 = *very much*. Again, items mean scores (all items) were averaged across Waves I and II. Table A3 provides more details on these items.

Covariates. Time-invariant respondent related covariates included respondent sex at birth (female, male); self-reported race (white, non-white); highest grade achieved by Wave III, highest degree by Wave V; support from peers and teachers (How much do you feel that your

teachers care about you? and how much do you feel that your friends care about you?), each averaged across Waves I and II. A myriad of research demonstrates sex differences in depression (Reyes et al., 2025). Race and education levels have been found to be associated with both depression and access to health care (Ettman et al., 2026; Benjet et al., 2020). Support from non-parents could buffer the lack of support from parents and families and be associated with DS and MHC use (Raffaelli & Wiley, 2013).

Time-invariant parent-related covariates included U.S. nativity status of mothers, age of the reporting parent (mostly mothers), parents' marital status, happiness level of parents (In general, are you happy? 1 = yes, 0 = no), highest education degree of mothers and fathers, and welfare receipt of parents (Do you receive public assistance, such as welfare? 1 = yes, 0 = no). US nativity status, higher education of parents, and greater resources (reduced need for welfare) can affect MHC seeking and receipt and possibly reduce exposure to discrimination (Chang et al., 2014). These contexts may also affect depression through a lower stress environment (Johnson & Possemato, 2019). Happiness of mothers can tap into family environment as well as possible genetic predisposition to depressive symptoms among offspring (Goodman, 2026).

Time-varying respondent-related covariates included respondent age, current health insurance status (yes, no), and physical health status (1 = poor to 5 = excellent), regular physical exam receipt (In the past year have you had a routine physical examination? 1 = yes, 0 = no), annual household income of parents in Waves I and II and respondent in subsequent waves, language spoken at home (Spanish or English), US citizenship status of the respondent, and proportion Hispanic in the household census tract. Religiosity was measured as a mean score of 4 items with a higher score indicating more religiosity: (1) In the past 12 months, how often did you attend religious services? (1 = once a week or more to 4 = never); (2) How important is

religion to you? (1 = very important to 4 = not important at all); (3) How often do you pray? (1 = at least once a day to 5 = never); (4) Many churches, synagogues, and other places of worship have special activities for teenagers—such as youth groups, Bible classes, or choir. In the past 12 months, how often did you attend such youth activities? (1 = once a week or more to 4 = never).

Health insurance directly affects the ability to receive health care, including mental health care (Chang et al., 2014). Physical health status has been established as related to depression and may also affect health care utilization (Ettman et al., 2026). Obtaining regular physical exams is an indication of health care receipt other than MHC and health maintenance (Edelstein et al., 2015). Religiosity has been found to be a resilience factor, especially for mental health (Cardemil & Alvarez-Frank, 2026). Previous research has also shown that neighborhood tracts with a high concentration of Latine individuals may be a source of support due to a consonant environment characterized by congenial norms and a sense of belonging (García Coll et al., 1996; Seaton et al., 2022). However, predominantly Latine neighborhoods also face limited access to resources (e.g., mental health care services) and greater exposure to environmental risks or threats (e.g., environmental hazards, income inequality, discrimination) (Seaton et al., 2022; White et al., 2012).

Analytic Strategy

Study hypotheses were evaluated using a multivariate, generalized SEM framework (Rabe-Hesketh et al., 2004). All models used time-varying outcomes and, when available, time-varying independent variables. For trajectory models, age was used as the unit of time, with age and age-squared estimating linear and quadratic changes in depressive symptoms and MHC use (Bollen & Curran, 2006; Diggle, 2013). For most models, direct maximum likelihood (FIML) was used to retain observations with item-level missing data within and across time due to

attrition and random dropout (Arbuckle, 1996). In cases where FIML was not available, pairwise deletion was used to retain observations with item-level missing values. This was the case for probit regression used for the dichotomous MHC utilization outcome.

Sampling weights were applied for descriptives and models to obtain externally valid estimates (Chen & Chantala, 2014). Standard errors were adjusted for clustering of repeated observations within persons and persons within schools using sandwich estimators (Binder, 1983). SPSS and Stata were used for data preparation and basic statistics (IBM Corp., 2023; StataCorp, 2024). Stata and Mplus (Muthén & Muthén, 2017) software were used to estimate latent-variable models and full SEM models.

For H1, linear mixed-effects models were used to estimate depressive symptoms (DS) trajectories, and logistic mixed-effects models were used to estimate MHC utilization trajectories. Multilevel sampling weights were applied to obtain population estimates. Associations between trajectory model components (intercepts, slopes, and quadratics) were assessed using the predicted random effects from these models. For H2, the DS trajectory intercept and slope components were modeled as outcomes of family-strength variables and covariates using a marginal linear model. Effects on the slope were estimated by interacting the family variables with age. Note that the limited variance in the quadratic effect precluded this component as a variable. Similarly, for H3, the MHC utilization was modeled as an outcome of family strength variables and covariates, with time-varying DS levels as mediators. This was estimated using a marginal probit model. Indirect effects of family strengths on MHC utilization through depression were evaluated using a product-of-coefficients method. For H4, time-varying DS were interacted with family strengths variables to predict MHC utilization. Associations

between family strengths and outcomes were evaluated for moderation by sex at birth and country of origin using interactions. Moderation was not tested for covariate effects.

Results

Depressive Symptom and Family Support Descriptives

Population mean estimates of age and the dependent variables across all six waves of data are in Appendix Table B1. This cohort was age 16, on average, in Waves I and II; age 22 on average (range 18 to 28) at Wave III; mostly in their 20's (25 to 34) at Wave IV; mostly in their 30's (33-43) at Wave V, and in their 40's (40 to 50) at Wave VI. Average depressive symptoms started out at 0.70 (0-3 scale) in adolescence, then dropped to 0.52 throughout their 20's and went back up slightly in their 30's and early 40's, then peaked in mid- to late-40's. Utilization of mental health care services was low over all waves, but was higher (13%) at the first wave and the last two wave (12% and 15%, respectively). These averages are presented in Figures 4 & 5 (all Hispanics).

Population mean estimates of both outcomes, depressive symptoms and mental health care utilization, across waves for the country of origin subgroups are provided in Appendix Table B2 and graphed in Figures 4 & 5. Most groups followed a similar pattern across age. In adolescence, self-identified Puerto Rican individuals had higher depression symptoms while Cuban and Central/South American origin individuals had the lowest average depression symptoms. Puerto Rican origin Hispanics continued doing less well than the other groups in their 30's and 40's with respect to depression. In adolescence, Puerto Rican and Other Hispanic respondents had higher mental health care utilization than other groups and this held for Waves V and VI. Cuban origin Hispanics showed an increase in MHC utilization later in life.

Figure 4.

Population Mean Estimates of Depressive Symptoms by Country of Origin

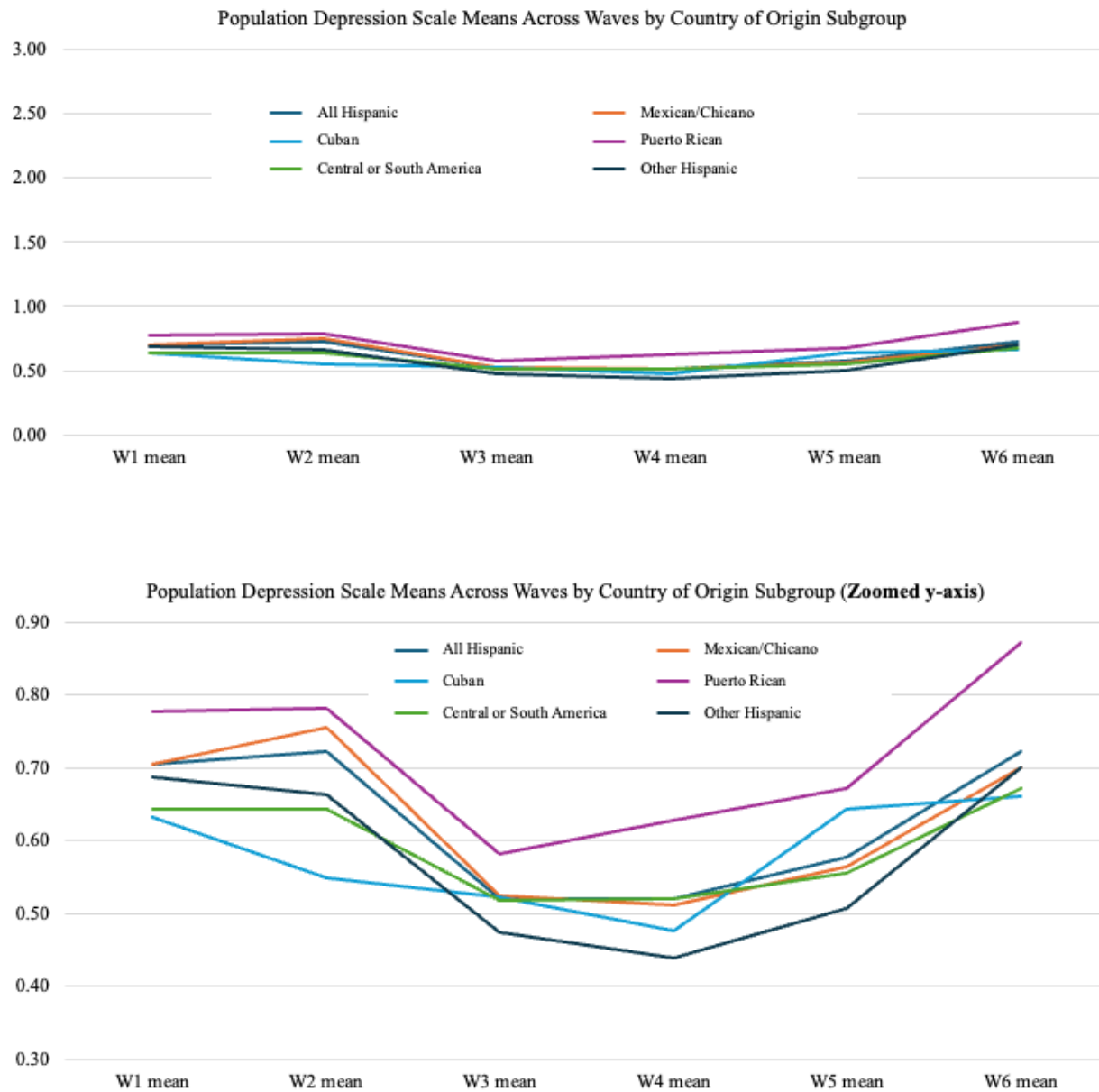
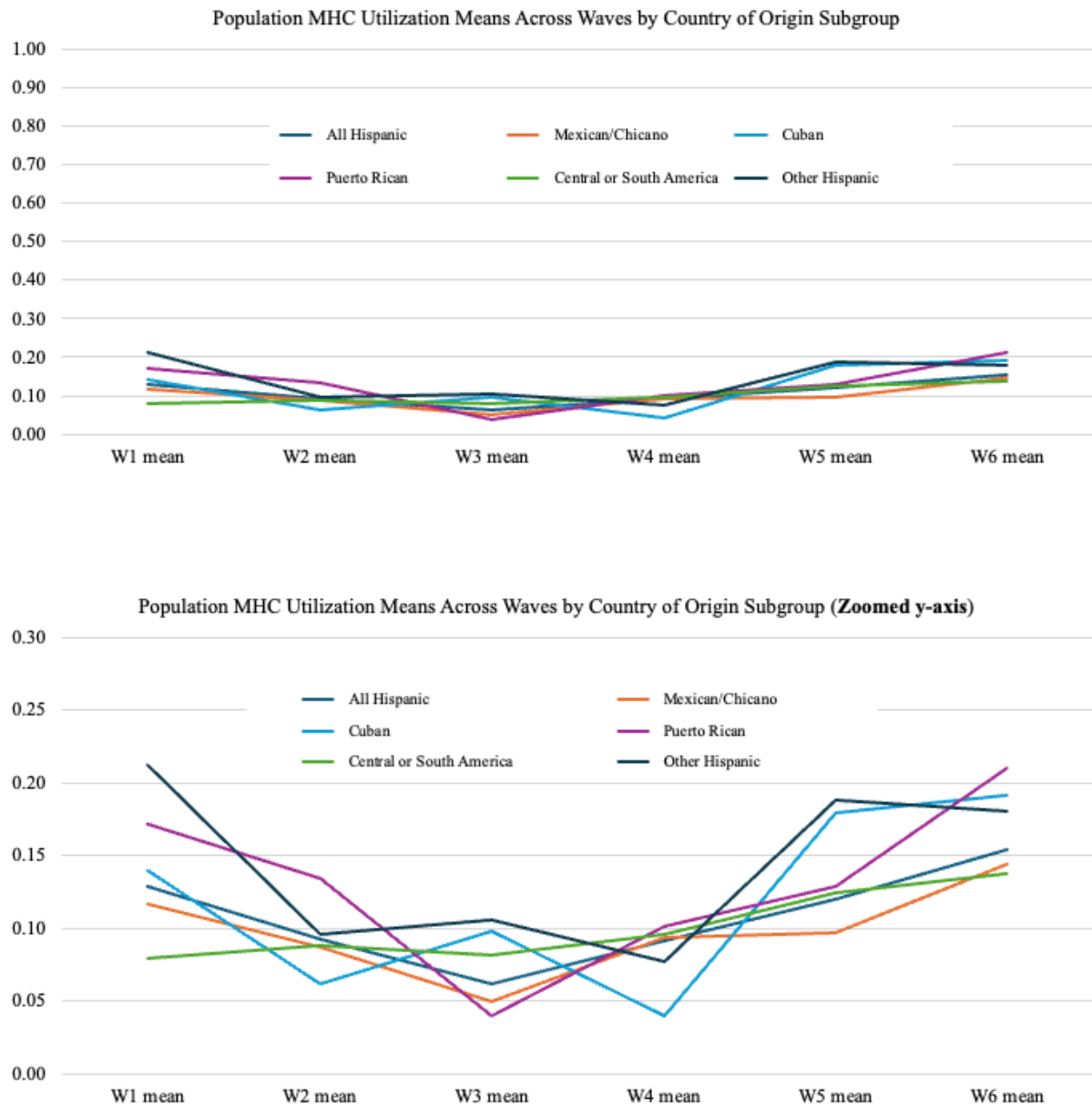


Figure 5.

Population Mean Estimates of MHC Utilization by Country of Origin



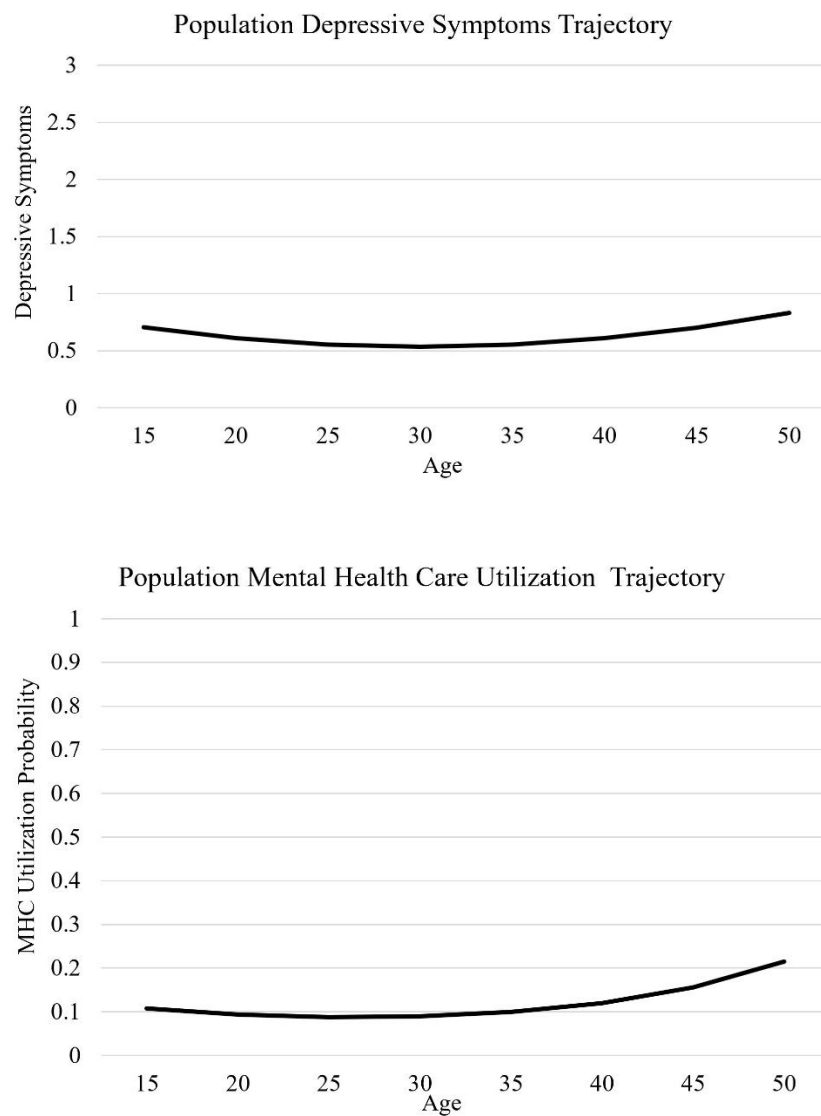
DS and MHC Utilization Trajectories and Their Association (H1)

Model-based population trajectories for depressive symptoms (DS) and MHC utilization are portrayed in Figure 6 (estimates provided in Table B3). The trajectory was nonlinear for

both. Depression started out around 0.70, on average, in adolescence and decreased up to age 30 and then increased again, peaking at 0.83 by age 50. MHC was static up to age 30 with utilization averaging around 10% and then increased nonlinearly until age 50 when utilization rates averaged 21%.

Figure 6.

Model-Estimated Population Trajectories



The depressive symptoms and MHC utilization trajectories were associated (Table 3). Depressive symptoms levels at age 26 (intercepts) were associated with MHC utilization levels at age 26 ($b = 4.08, p = < .001$). For one-unit higher DS, the log-odds of MHC use was 4.08 higher. Changes in DS were associated with changes in MHC utilization ($p < .001$) and quadratic changes were associated ($p = .024$).

Table 3.

Association of Depressive Symptoms and MHC Utilization Trajectories

<i>Depressive Symptoms</i>	MHC Utilization at Age 26			
	b	95% CI		p-value
Levels at Age 26	4.08	2.59	6.41	0.000
<i>Depressive Symptoms</i>	MHC Utilization Change Across Age - Slope			
	b	95% CI		p-value
Levels at Age 26	0.99	0.95	1.02	0.477
Changes Across Age	20.12	6.28	64.46	0.000
<i>Depressive Symptoms</i>	MHC Utilization Change Across Age - Quadratic			
	b	95% CI		p-value
Levels at Age 26	1.00	1.00	1.00	0.263
Changes Across Age	0.90	0.82	0.99	0.024

NOTE: Bolded values indicate significance.

Family Strengths and Depressive Symptoms (H2)

Three out of the five measured family strengths were associated with depressive symptom levels at age 15 (Table 4). Higher mom engagement was associated positively with depressive symptom levels at age 15 ($\beta = 0.06, p = .010$). This is the opposite direction of association than what was proposed in H2. Mom's warmth (MW) was negatively associated with DS levels at age 15 ($\beta = -0.06, p = .015$) as hypothesized. Family support (FS) had the strongest association, $\beta = -0.18$ ($p < .001$) in the hypothesized direction. Family support in adolescence

was also associated with changes in depressive symptoms across age where the effect became diminished as individuals aged ($\beta = 0.07, p < .001$). The other effects remained stable over age.

Table 4.

Depressive Symptoms Associations with Family Strengths (n = 3,230, o = 13,768)

	Depressive Symptoms (10X scale)				Beta
	b	95% CI		p-value	
age (years)	-0.07	-0.10	-0.03	0.000	-0.12
age-squared	0.01	0.01	0.01	0.000	0.16
<i>Family Strengths Association with Levels (age 15)</i>					
Mom Engagement	0.19	0.05	0.34	0.010	0.06
Dad Engagement	-0.03	-0.17	0.11	0.641	-0.01
Mom Warmth	-0.75	-1.35	-0.15	0.015	-0.06
Dad Warmth	-0.41	-0.96	0.14	0.141	-0.04
Family Support	-1.37	-1.72	-1.01	0.000	-0.18
<i>Family Strengths Association with Changes</i>					
Mom Engagement X Age	-0.01	-0.02	0.00	0.225	-0.02
Dad Engagement X Age	0.00	-0.01	0.02	0.607	0.01
Mom Warmth X Age	0.03	-0.02	0.08	0.207	0.03
Dad Warmth X Age	0.02	-0.03	0.07	0.408	0.02
Family Support X Age	0.05	0.02	0.07	0.000	0.07

NOTE: Bolded values indicate significance.

Covariate effects from the same model were provided in Table 5. Depressive symptoms were lower across all ages when: parents were married in adolescence, sex was male, a higher grade was completed by Wave III, total household income was higher, religiosity was higher, physical health was better, physical exams were regular, and there was a higher proportion of Hispanics that lived in the individual's home census tract. The largest associations were with physical health and income.

Table 5.*Depressive Symptoms Associations with Covariates (n = 3,230, o = 13,768)*

	Depressive Symptoms (10X scale)				Beta
	b	95% CI	p-value		
<i>Covariates (pooled within-age associations)</i>					
Mom US Born	0.30	-0.19	0.78	0.230	0.03
Parent Age W1	-0.01	-0.05	0.02	0.449	-0.02
Parents Married W1	-0.63	-1.08	-0.18	0.006	-0.05
Parent HS W1	-0.40	-0.91	0.11	0.121	-0.03
Parent BS W1	-0.10	-0.73	0.53	0.755	-0.01
Welfare Receipt W1	-0.20	-0.83	0.42	0.519	-0.01
Mom Happy W1	-0.66	-1.47	0.15	0.108	-0.03
Male	-0.81	-1.27	-0.34	0.001	-0.07
White	-0.16	-0.53	0.21	0.401	-0.01
Spanish at Home	-0.06	-0.63	0.50	0.822	-0.01
US Citizen	-0.01	-0.59	0.57	0.976	0.00
Highest Grade W3	-0.20	-0.33	-0.06	0.004	-0.06
HS Grad	-0.48	-1.48	0.52	0.347	-0.03
College Grad	-0.18	-0.71	0.35	0.513	-0.01
Advanced Degree	0.70	-0.08	1.49	0.079	0.03
HH Income	-0.10	-0.14	-0.05	0.000	-0.09
Insurance	-0.29	-0.71	0.13	0.180	-0.02
Religiosity	-0.27	-0.48	-0.07	0.009	-0.04
Physical Health	-1.05	-1.23	-0.86	0.000	-0.18
Physical Exam	-1.12	-1.44	-0.79	0.000	-0.09
Teachers Care W1	0.13	-0.11	0.37	0.286	0.02
Friends Care W1	-0.19	-0.50	0.12	0.228	-0.02
Proportion Hispanic CT	-0.49	-0.94	-0.04	0.032	-0.04
R ²	0.181				

*NOTE: Bolded values indicate significance.***Family Strengths and Mental Health Care Utilization (H3)*****Direct Associations***

None of the family strength measures were directly associated with mental health care (MHC) utilization levels at age 15 or changes across age (Table 6). Depressive symptoms were

strongly associated with MHC utilization ($\beta = 0.46, p < .001$) within age, corroborating the correlated trajectory results for H1.

Table 6.

Mental Health Care Utilization Associations with Family Strengths ($n = 3,230, o = 13,777$)

	b (probit)	MHC Utilization		p-value	Beta
		95% CI			
age (10 years)	-0.04	-0.10	0.03	0.277	-0.04
age-squared	0.03	-0.02	0.08	0.225	0.04
<i>Family Strengths Association with Levels (age 15)</i>					
Mom Engagement	0.02	-0.02	0.05	0.329	0.03
Dad Engagement	0.03	-0.01	0.07	0.092	0.06
Mom Warmth	-0.01	-0.15	0.14	0.939	0.00
Dad Warmth	-0.09	-0.23	0.05	0.205	-0.05
Family Support	-0.04	-0.12	0.04	0.317	-0.03
<i>Family Strengths Association with Changes</i>					
Mom Engagement X Age	0.02	0.00	0.04	0.111	0.04
Dad Engagement X Age	-0.02	-0.05	0.01	0.199	-0.04
Mom Warmth X Age	0.00	-0.13	0.12	0.966	0.00
Dad Warmth X Age	0.04	-0.08	0.16	0.492	0.03
Family Support X Age	0.01	-0.05	0.07	0.740	0.01
<i>Depressive Symptoms</i>					
Depressive Symptoms	0.46	0.39	0.54	0.000	0.27

NOTE: Pairwise deletion was used instead of FIML. Bolded values indicate significance.

Covariate effects from the same model are provided in Table 7. MHC use was lower when: parents were married at Wave I, physical health was better, and the census tract Hispanic proportion of the population was higher. This contextual factor had the strongest association of all the covariates ($\beta = -0.13, p < .001$). MHC use was higher when: parents had a high school degree (relative to no HS degree) at Wave I, household income was higher, individuals had health insurance, and higher religiosity.

Table 7.*Mental Health Care Utilization Associations with Covariates (n = 3,230, o = 13,777)*

	MHC Utilization				Beta
	b (probit)	95% CI		p-value	
<i>Covariates (pooled within-age associations)</i>					
Mom US Born	0.08	-0.07	0.22	0.287	0.04
Parent Age W1	0.00	-0.01	0.01	0.529	0.02
Parents Married W1	-0.22	-0.32	-0.12	0.000	-0.10
Parent HS W1	0.12	0.00	0.24	0.047	0.06
Parent BS W1	-0.03	-0.20	0.13	0.702	-0.01
Welfare Receipt W1	0.01	-0.13	0.15	0.934	0.00
Mom Happy W1	0.04	-0.19	0.26	0.760	0.01
Male	-0.09	-0.20	0.02	0.124	-0.04
White	0.02	-0.07	0.11	0.713	0.01
Spanish at Home	0.05	-0.09	0.19	0.495	0.02
US Citizen	0.05	-0.10	0.19	0.552	0.02
Highest Grade W3	-0.02	-0.08	0.04	0.562	-0.04
HS Grad	0.05	-0.60	0.69	0.881	0.02
College Grad	0.06	-0.09	0.21	0.435	0.03
Advanced Degree	0.11	-0.28	0.51	0.577	0.03
HH Income	0.02	0.00	0.03	0.012	0.08
Insurance	0.12	0.02	0.23	0.019	0.05
Religiosity	0.07	0.02	0.13	0.012	0.06
Physical Health	-0.07	-0.12	-0.02	0.010	-0.07
Physical Exam	0.07	-0.05	0.18	0.249	0.03
Teachers Care W1	0.01	-0.05	0.06	0.844	0.01
Friends Care W1	0.04	-0.03	0.11	0.274	0.03
Proportion Hispanic CT	-0.31	-0.47	-0.16	0.000	-0.13
R ²	0.182				

NOTE: Pairwise deletion was used instead of FIML. Bolded values indicate significance.

Indirect Associations

While there were no direct associations of family strengths measures with MHC utilization, there were some indirect associations through depressive symptoms (Table 8). Mother's engagement as perceived by Latine adolescents was associated with an increase in

MHC use through depressive symptoms ($p = .025$). Perceptions of mom's warmth and family support reduced MHC utilization through their association with depressive symptoms. Perceptions of mom's warmth and family support decreased depressive symptoms and depressive symptoms increased MHC use resulting in an overall negative association. For dad's, there was no significant indirect associations of perceptions of engagement or warmth on MHC use through depressive symptoms.

Table 8.

Indirect Associations of Family Strengths with Mental Health Care Utilization through Depressive Symptoms ($n = 3,230$, $o = 13,777$)

	MHC Utilization				
	b (probit)	95% CI	p-value	Beta	
<i>Indirect through Depressive Symptoms</i>					
Mom Engagement -> DS -> MHC	0.008	0.001	0.015	0.025	0.01
Dad Engagement -> DS -> MHC	-0.001	-0.008	0.006	0.736	0.00
Mom Warmth -> DS -> MHC	-0.034	-0.064	-0.003	0.031	-0.02
Dad Warmth -> DS -> MHC	-0.016	-0.040	0.008	0.204	-0.01
Family Support -> DS -> MHC	-0.057	-0.075	-0.039	0.000	-0.05

NOTE: Associations control for covariate effects. DS = Depressive Symptoms, MHC = Mental Health Care. Bolded values indicate significance.

Family Strengths Moderation of Depressive Symptoms Association with Mental Health Care (H4)

Mom's warmth moderated the association between depressive symptoms and MHC utilization ($p = .048$). This moderation was portrayed in Figure 7. The association between DS and MHC was stronger for higher levels of mom's warmth. Dad's warmth also moderated the association, though only at $p = .071$. As dad's warmth went up, depressive symptoms became more strongly associated with MHC utilization (Figure 8).

Figure 7.

Mom's Warmth Moderation of the DS and MHC Association

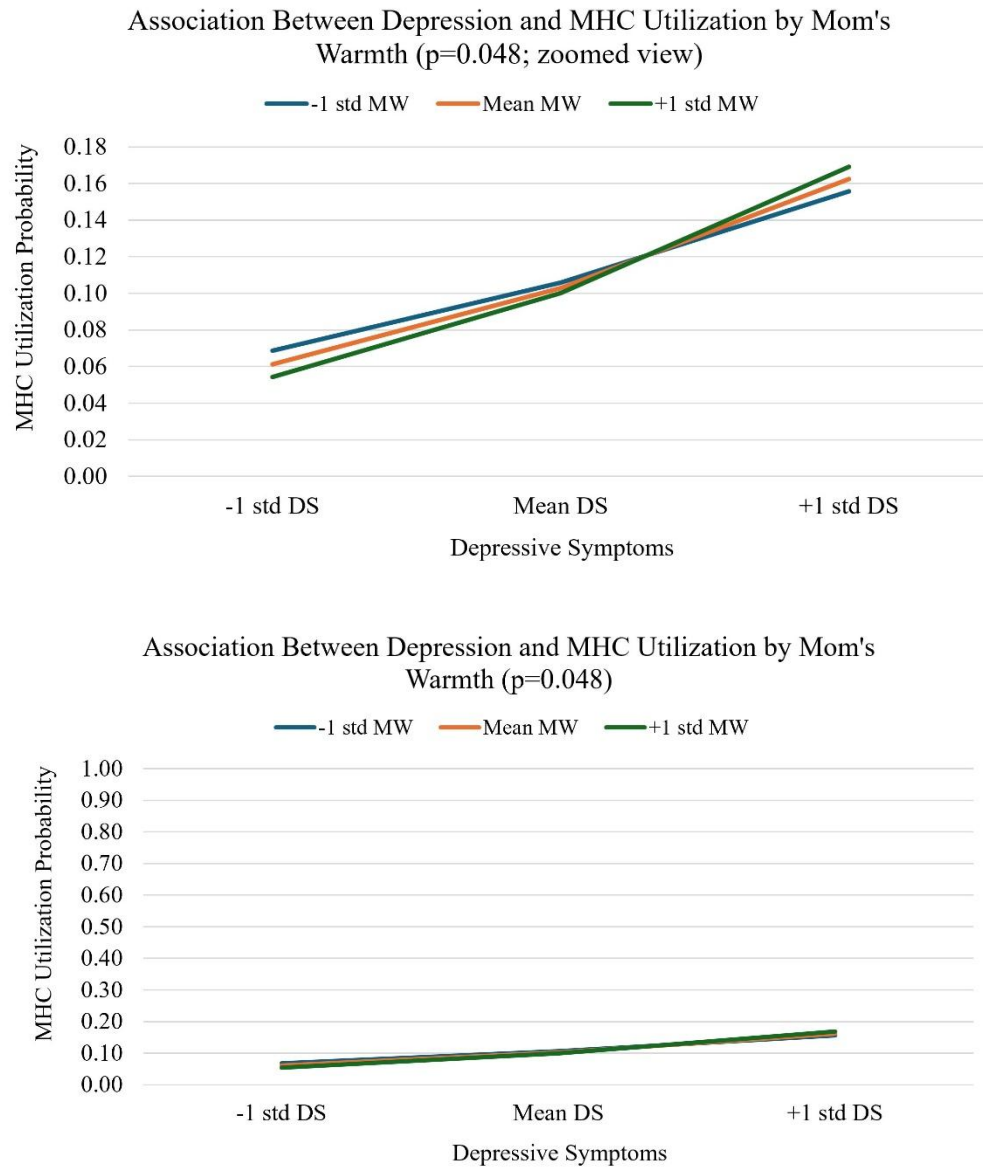
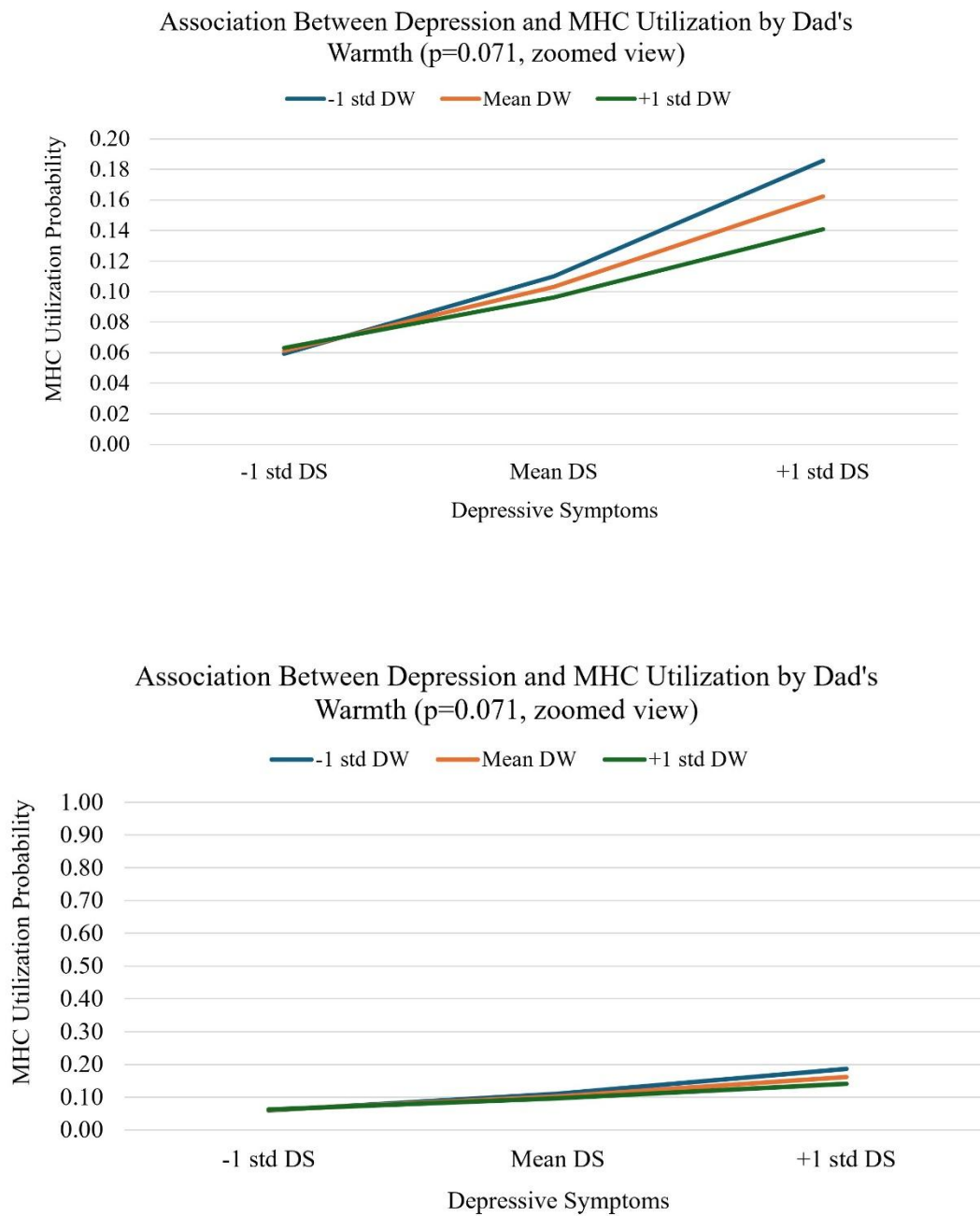


Figure 8.

Dad's Warmth Moderation of the DS and MHC Association



Latine Subgroup Differences (H1m-H3m)

Model tests of differences in levels, changes, and curvature in depression trajectories across age showed no differences by country of origin groups (all $p > 0.09$). Model tests of differences in levels, changes, and curvature in MHC use across age showed no differences by country-of-origin groups (all $p > 0.22$), except for South/Central Americans for changes ($p = .056$) and curvature ($p = .01$). This trend was inverted, with MHC use increasing in early-to-mid adulthood and being low in adolescence and mid-adulthood, contrary to all other ethnic subgroups. Figures 9 and 10 portrayed the trajectories by subgroups. Appendix Table B4 had the depressive symptoms trajectory estimates for each group.

Figure 9.

Depressive Symptoms Trajectories

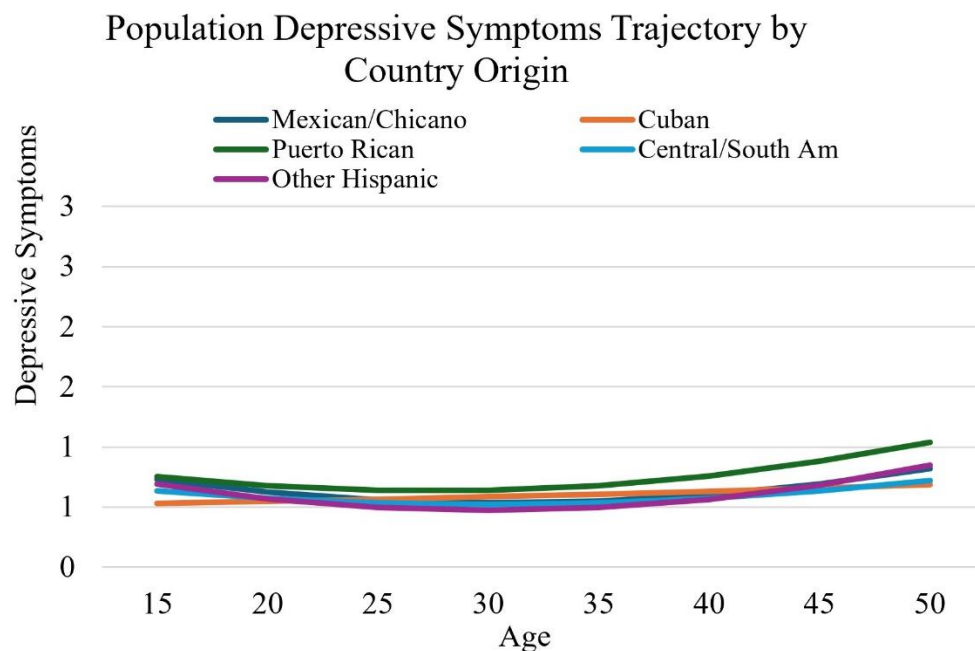
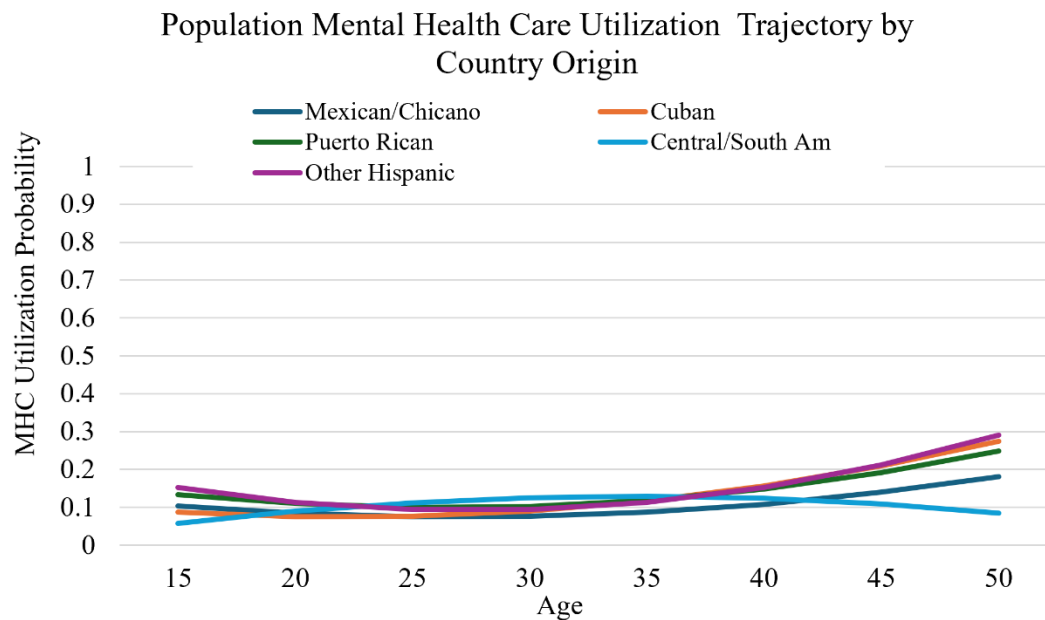


Figure 10.

MHC Use Trajectories



There was no moderation of the associations between family strengths and MHC Utilization. Moderation of the association between family strengths and depressive symptoms was limited to some differences in the association between mom's engagement and DS and between dad's engagement and DS. For Cuban origin Hispanics, more engagement with mom was associated with lower depressive symptoms. Cuban Hispanics differed from Mexican/Chicano, Puerto Ricans, and Central/South American Hispanics in this regard (Figure 11). Other Hispanics differed from Cuban and Mexican/Chicano Hispanics in the association between dad's engagement and DS (Figure 12). Other Hispanics showed higher DS and greater engagement with dad, whereas Cuban and Mexican/Chicano Hispanics showed lower DS and greater engagement with dad.

Figure 11.

Country of Origin Moderation Mom Engagement

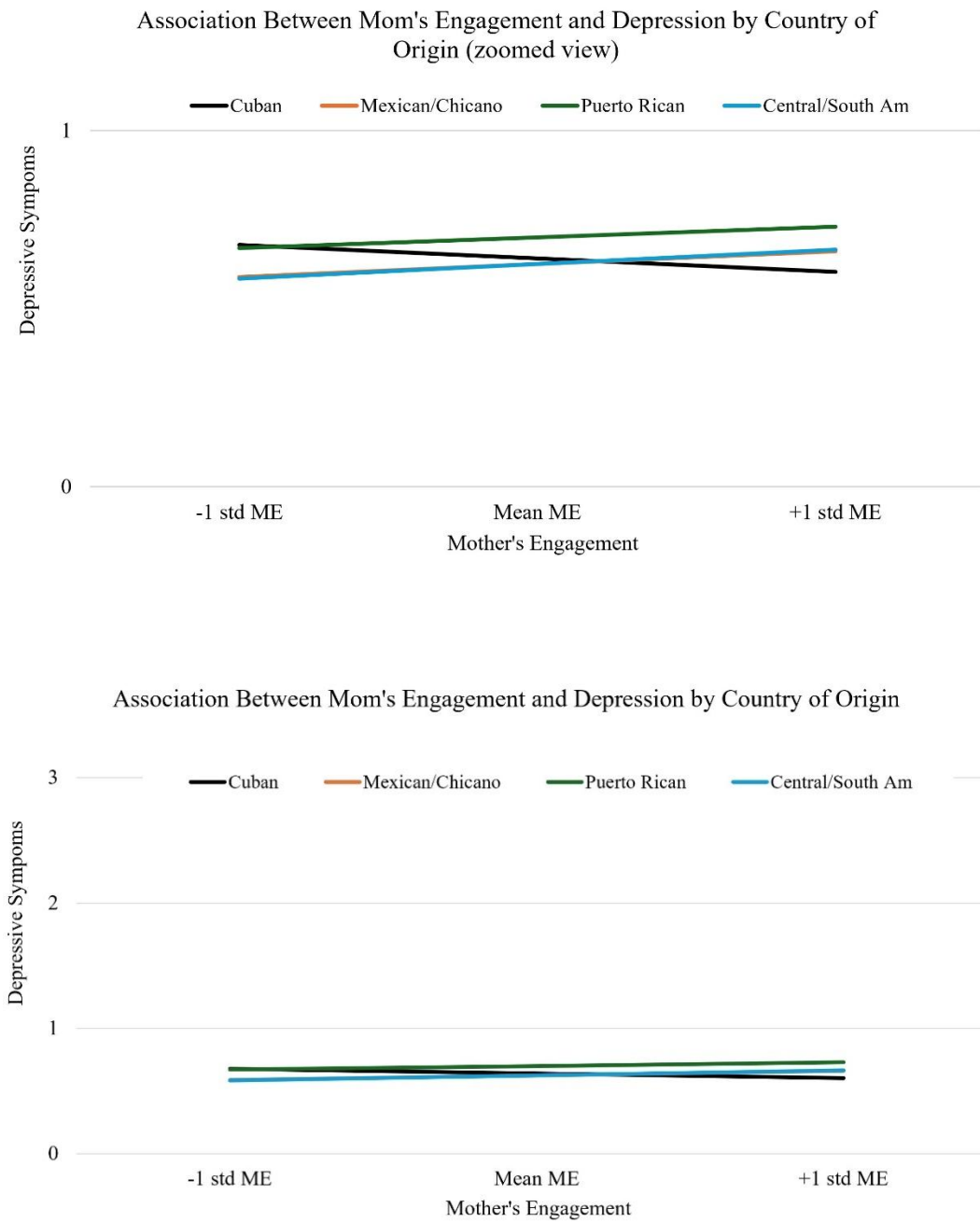
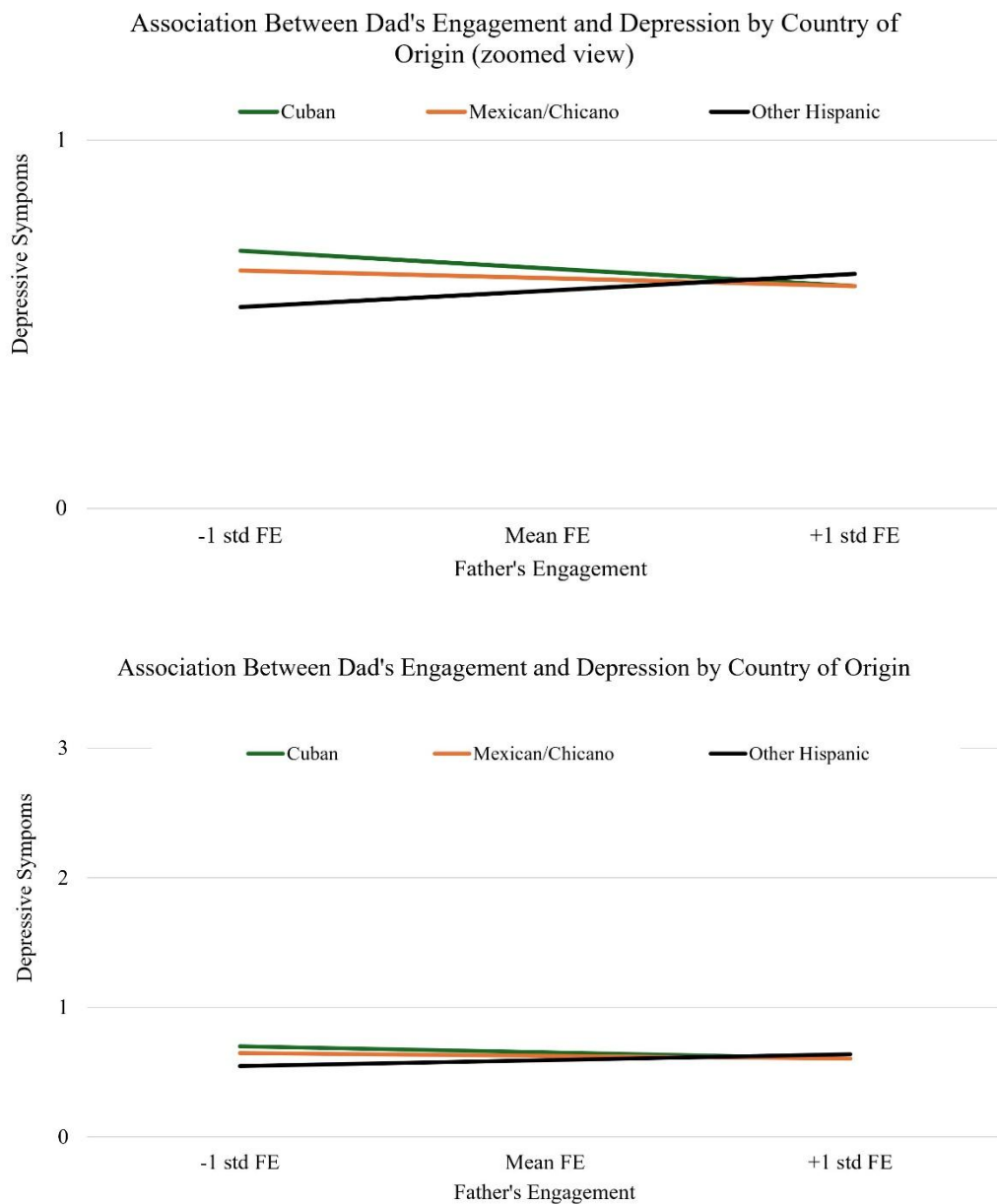


Figure 12.

Country of Origin Moderation Dad Engagement



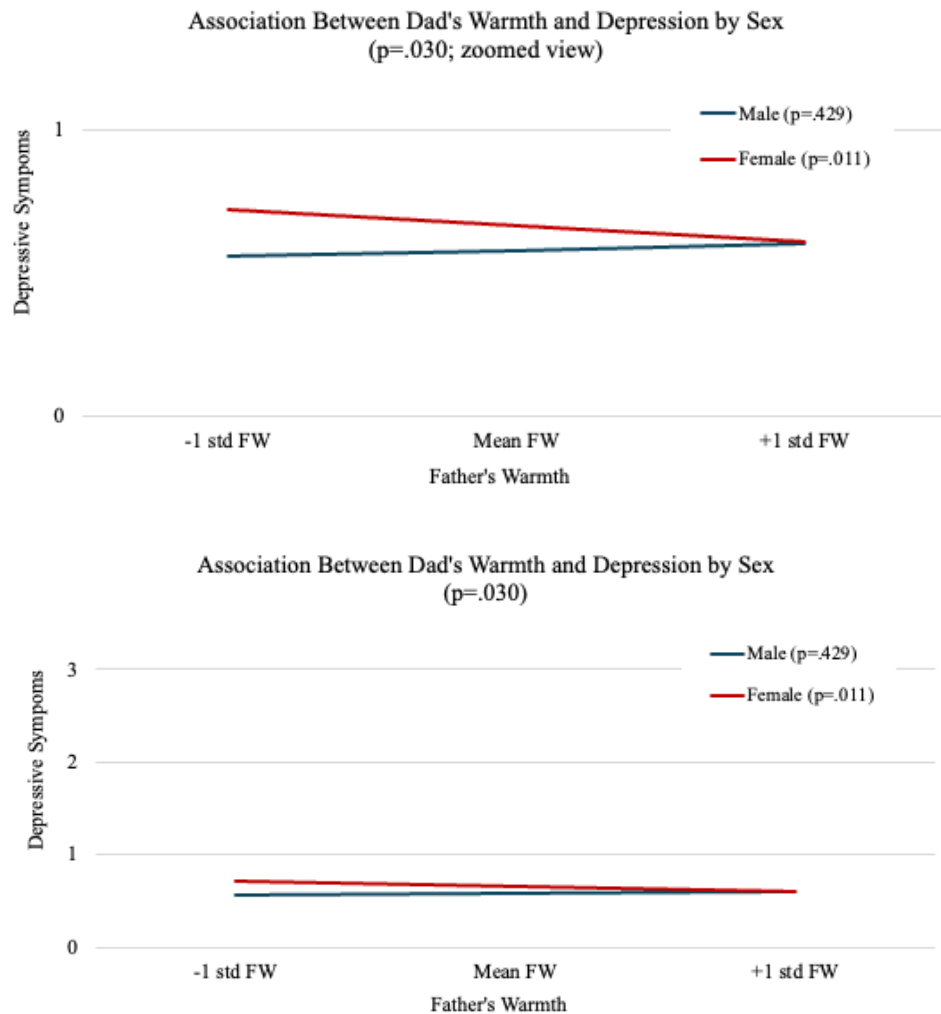
Sex as a Moderator

Sex differences were found for depression (Table 5), but not for MHC use (Table 7). Sex moderation was only present for the association of dad's warmth with depressive symptoms ($p =$

.03) (Figure 13). Depressive symptoms are lower when dad's warmth was higher for females but not for males.

Figure 13.

Sex Moderation



Discussion

Overall, several of our hypotheses were confirmed in the current study. Depressive symptoms among Latine individuals exhibited a higher prevalence during adolescence,

diminished during early to mid-adulthood, and subsequently increased during mid to late adulthood. As corroborated by prior research, depressive symptoms tend to decrease as individuals progress into adulthood (Cicchetti, 2023; Alegría et al., 2007). Nevertheless, this curvilinear association is consistent with studies examining adult experiences among Latine populations (Cardemil & Alvarez-Frank, 2026). Additionally, use of mental health care was low overall, with limited changes by age, consistent with prior studies on Latine MHC utilization (Galvan & Gudiño, 2021; Simpson et al., 2024).

Regarding family strengths, the youth's perceptions of familial support and warmth significantly contributed to the reduction of depressive symptoms, aligning with prior research (Bermudez & Mancini, 2013). However, our findings indicated that the youth's reports of maternal engagement were correlated with increased depressive symptoms, which contradicts our initial hypothesis. Furthermore, we observed that Latina individuals benefited more from their perceptions of fathers' warmth in adolescence than Latino individuals across all measured time points. Previous studies have emphasized the vital role that Latine fathers serve in their daughters' lives (Cabrera & Bradley, 2012). Harkening back to traditional gender roles, Latine fathers' may adhere more to the *caballerismo* notion of being more emotional and gentlemanly with their daughters versus their sons (Arciniega et al., 2008). Thus, it is important to leverage the role that fathers' play in Latine adolescent development into adulthood, especially regarding depressive symptoms.

Among predictors of mental health care utilization, only depressive symptoms were associated, consistent with previous research (Delphin-Rittmon, 2022). Contrary to our hypothesis, none of the family strengths perceived by youth predicted levels or changes in MHC use. However, we observed indirect associations between the youth's perception of mothers'

engagement, mothers' warmth, and family support, and MHC through depressive symptoms. Thus, certain aspects of family strengths as perceived by youth were integral to the relationship between depressive symptoms and mental health care utilization (Cooper et al., 2023). Both mothers' and fathers' warmth as reported by youth moderated the relationship between depressive symptoms and MHC, as previously hypothesized (Cauce et al., 2002; Arnaez et al., 2020).

When examining country-of-origin group differences, there were no significant differences by ethnic origin in depressive symptoms. Previous research has shown that Puerto Ricans generally report more depressive symptoms across the life course than other Latine peers, but the current study showed only close to significant results ($p = .09$) (López et al., 2012). Among mental health care utilization trajectories, only South/Central Americans showed significant changes and curvature over time, with higher utilization during early adulthood compared with other Latine subgroups. This contrasts with other research showing that Puerto Ricans are more likely to use MHC services than other Latine peers (Alegría et al., 2007).

For the moderation models, there was limited support for associations between youths' perception of parental engagement and depressive symptoms by ethnic origin. As reported by Cuban youth, greater maternal engagement was associated with lower depressive symptoms, and this differed significantly from that of other Latine groups. For other Hispanics, greater reports of paternal engagement were associated with higher depressive symptoms, whereas it was linked to lower depressive symptoms for Cubans and Mexican/Chicanos. However, these moderation results were not replicated for MHC trajectories as hypothesized.

Depressive Symptoms within Latine Adolescents into Adulthood

An examination of the lifetime trajectories of depressive symptoms within Latine populations reveals a curvilinear pattern, characterized by a decline in depressive symptoms from age 14 to age 30, followed by an increase through age 50. Latine adults aged 18 to 25 (15.9%) are more likely to experience a major depressive episode than those aged 25 to 49 (10%) (Cardemil & Alvarez-Frank, 2026; SAMHSA, 2025). Nonetheless, the median age of onset for depressive symptoms is approximately 30 years (Ettman et al., 2026; Solmi et al., 2022). In line with previous research, depressive symptoms among Latine adolescents were increased, but this effect appears to diminish into adulthood (SAMHSA, 2025; Ettman et al., 2026).

Through the process of aging, a range of significant life events may introduce stressors, including parenthood, financial difficulties, and heightened health conditions (Ettman et al., 2026). As shown within the covariates, poorer physical health and less engagement with physical health exams were associated with higher depressive symptoms. For example, depressive symptoms tend to increase in adulthood following illness or declining health (Ettman et al., 2026; Edelstein et al., 2015). Moreover, adults above the age of 40 are more likely to report somatic symptoms, such as sleep disturbances and loss of interest or appetite, rather than experiencing feelings of guilt or suicidal ideation (Edelstein et al., 2015; Hegeman et al., 2012). Additionally, for women in mid-life who are already at risk for experiencing depressive symptoms, these symptoms may coincide with menopause which may exacerbate symptoms due declining physical health status (e.g., sleep regression, increased irritability, hot flashes) (Jones et al., 2020). Overall, Latine populations are more likely to report somatic symptoms of depression than the emotional components (Dunlop et al., 2020; Zvolensky et al., 2021). Somatic symptoms are defined as frequent and recurring physical pains that have been linked to mental

health illnesses (American Psychiatric Association, 2013). Thus, these somatic symptoms may be an alternative explanation for the strong relationship between physical health and depressive symptoms.

Findings indicate that Latine subgroup identity is not the primary factor driving difference in depressive symptoms, but rather, the associated contextual factors may account for these variations (Ettman et al., 2026). For example, prior research investigating the trajectories of depressive symptoms for the general population using the Add Health cohort demonstrated that the curvilinear relationship manifests even among individuals who are not Latine (Coppola et al., 2024a; 2024b). As evident from LatCrit, Latine individuals are detrimentally impacted by societal factors, such as social inequities and discrimination, which can impact their overall trajectories of depressive symptoms (Huber, 2009; Solorzano & Yosso, 2001; Benjet et al., 2020; Plunkett et al., 2024). In the current study, lower household income and lower education levels were associated with increased depressive symptoms trajectories. Previous studies with Latine samples had attributed economic strain to the development of depression (Cabassa et al., 2007). In line with LatCrit, as Latine individuals experience a loss of control due to societal pressures beyond their control, this may increase distress and result in more depressive symptoms (S. J. García et al., 2022; Solorzano & Yosso, 2001).

Across all trajectory models, Latina individuals reported higher depressive symptoms than their Latino counterparts. This aligns with previous research showing that Latine females report higher symptomatology and are more likely to report negative rumination and internalizing symptoms than their male counterparts (Reyes et al., 2025; Abrams et al., 2005; Conley et al., 2023; Carrizales et al., 2025). In thinking about traditional gender roles, Latinas are expected to silence themselves by not sharing personal thoughts/feelings to maintain

harmony in external relationships, especially as they start to become mothers in adulthood (Castillo et al., 2010). On the flip side, Latinos traditionally are expected to repress their sadness and not show vulnerabilities especially into adulthood (Arciniega et al., 2008). Other studies have found that sex differences may not always be consistent, with some indicating that gender does not necessarily predict recurrence of depressive symptoms over time (Benjet et al., 2020; Stein et al., 2022). Nonetheless, the current study shows that external factors of development, such as gender and culture, may impact the psychological adjustment of Latine adolescents as they transition into adulthood, as supported by a bioecological/cultural resilience perspective (García Coll et al., 1996; Suárez-Orozco et al., 2018).

Furthermore, religiosity was observed to be significantly related to depressive symptoms, such that increased religious beliefs were associated with lower depressive symptoms. Prior research has indicated that religiosity may serve as a protective factor against the development of depressive symptoms within Latine families, though this can be a mixed bag for certain individuals (Cardemil & Alvarez-Frank, 2026; Joachim-Célestin et al., 2024). When individuals engage in positive religious coping through a secure attachment to God and to their beliefs, this has been linked to fewer depressive symptoms, even in Latine samples (Stege & Godinez, 2022; Holloway-Friesen, 2023). Previous focus groups with Latine individuals indicated that their faith in God would heal depression and that asking God for forgiveness could aid the healing process (Cabassa et al., 2007). Thus, the present study further supports the notion that religiosity may serve as a protective factor for reducing depressive symptoms in Latine samples when engaging in positive religious coping (Holloway-Friesen, 2023; Joachim-Célestin et al., 2024; Santos & Kalibatseva, 2019).

Further exploration of LatCrit methodology and the IRR model of cultural resilience found that census tract data on neighborhood makeups of Latine residents were significantly associated with depressive symptoms. Within a neighborhood, a higher concentration of Latine individuals was associated with lower depressive symptoms over time. Previous research has found that neighborhood tracts with a high concentration of Latine individuals may be a source of support due to a consonant environment characterized by congenial norms and a sense of belonging (García Coll et al., 1996; Seaton et al., 2022). These personal support networks, consisting of families and community members, may serve as cultural assets that may reduce depressive symptoms (Cooper et al., 2023; Raffaelli & Wiley, 2013; Ramos et al., 2022). Thus, these societal and external networks demonstrated positive effects in the current study on the psychological adjustment of Latine individuals (García Coll et al., 1996; Huber, 2009).

Family Strengths and Depressive Symptoms

As hypothesized, youth reported perceptions of maternal warmth and family support were found to be associated with lower depressive symptoms among Latine individuals. Since these variables were collected during the first two waves of the study, the findings demonstrate the significant impact of these early familial strengths among Latine adolescents and their persistence into adulthood. As previously identified, strong familial bonds and interconnectedness are core cultural values within Latine families that can be leveraged to mitigate internalizing symptoms (Bermudez & Mancini, 2013). Reflecting on family systems theory, the generalized findings of this study echo how Latine families strive to manage external stressors through their familial relationships (Cox & Paley, 1997, 2003).

The current findings highlight the pivotal role that mothers serve as perceived emotional caretakers by their children, as well as the influence of these parental relationships on long-term

well-being into adulthood (Ramos et al., 2022; Simpson et al., 2024; Shafer et al., 2017). Previous research on traditional gender roles emphasized the importance of the family pillar in which women are seen as the main source of strength within the family (Castillo et al., 2010). Additionally, Latine mothers are expected to endure external stressors (e.g., depressive symptoms) that disrupt the familial unit and to help bring the family back to equilibrium, consistent with family systems theory (Alvarez-Frank et al., 2026; Cox & Paley, 1997, 2003). As evident from the study's findings, Latine youth perceive their mothers as using more warmth and support during adolescence, and this was associated with lower depressive symptoms from adolescence into mid-adulthood. These early maternal effects held strong, underscoring the lasting impact of the family pillar and how Latine families may use familial strengths, such as warmth and support, to combat external psychological symptoms (Cox & Paley, 2003; Castillo et al., 2010).

Furthermore, maternal involvement was significantly correlated with heightened depressive symptoms among Latine individuals. In the current study, parental engagement was characterized by participation in more activities with their mother or father figure (Harris, 2013). One possible explanation for this association is that the more depressed Latine adolescents were, the greater the efforts mothers made to engage with their children (Pineros-Leano et al., 2021; Cooper et al., 2023; Raffaelli & Wiley, 2013). Previous research has indicated that greater parental engagement with their children was associated with lower depressive symptom outcomes over time for adolescents (Reyes et al., 2025; Plunkett et al., 2009; Reck et al., 2016). Although Latine families tend to prioritize acceptance of problems and internal qualities of the self, it may be that Latina mothers demonstrate warmth through interactions with their

adolescents to mitigate depressive symptoms via familial relationships (Jiménez et al., 2019; Cox & Paley, 1997).

Regarding fathers, there was a significant association between youths' perceived warmth and depressive symptoms among Latinas, but not among Latinos. Consequently, it was determined that elevated levels of warmth from fathers were related to lower depressive symptoms among Latina individuals. The influential role of fathers in development has been well documented, particularly in the context of their daughters (Agerup et al., 2015; Cabrera & Bradley, 2012; Thompson & Henrich, 2022). For example, a sub-sample using this data revealed that fathers' connectedness with their daughters mediated the relationship between parental caring and depressive symptoms in Latinas (Piña-Watson & Castillo, 2015).

Traditionally, men are seen as hypermasculine and dominant within Latine households, handling matters outside the home (Arciniega et al., 2008; Bonilla & Piña-Watson, 2025). Additionally, Latina girls are raised to be subordinate to others, a belief that they should adhere to the hierarchical power structure of households, which is generally led by the father figure (Castillo et al., 2010; Gallegos & Segrin, 2024). Thus, the current findings may underscore both the important role that fathers play within Latine families, but also how perception of warmth by fathers' may be more impactful for Latinas. For Latino adolescents, prior research has shown that higher endorsement of machismo ideals was associated with higher depressive symptoms (Wuyke et al., 2023). It may be hard for them to perceive warmth from their fathers in the same capacity if these traditional gender roles are present (Agerup et al., 2015; Thompson & Henrich, 2022). Thus, these principle familial relationships underscore their significance in mitigating mental health issues into adulthood.

Mental Health Care Utilization in Latine Adolescents into Adulthood

Although the current study employed a relatively large, nationally representative sample of Latine adolescents, the utilization of mental health care services remained low (less than 15% across all six waves). Previous studies have reported that Latine adolescents are less inclined to access mental health services, let alone actively seek them (Delphin-Rittmon, 2022; Galvan & Gudiño, 2021; Simpson et al., 2024). As previously noted, adolescents are generally less likely to endorse discussing their emotional states or experiences with others (Cauce et al., 2002; García et al., 2011). While Latine adults tend to be more willing to seek support from family members, community resources, or religious institutions to manage depressive symptoms, this is often more challenging for adolescents (Raffaelli & Wiley, 2013).

Despite these obstacles to accessing services, there exists a significant association between depressive symptoms and mental health care utilization. As mental health symptoms increase, people are generally more inclined to seek professional mental health services (McLaren et al., 2023). Nonetheless, this pattern may be influenced by a host of variables. As demonstrated in this study and corroborated by previous research, individuals with higher income levels, more educated parents, and health insurance coverage are significantly more likely to utilize mental health care services during episodes of depressive symptoms (Chang et al., 2014). Conversely, for Latine families, issues such as immigration status, language barriers, financial constraints, and mental health literacy substantially impact the treatment of depressive symptoms (Escobar-Galvez et al., 2023). Therefore, these individuals encounter additional challenges in their efforts to understand and access mental health care (Johnson & Possemato, 2019). As observed in the current study, structural barriers, such as lower income, lower maternal education, and lack of insurance, were all associated with lower mental health care

utilization. This lends support to the notion that socio-economic factors may be a strong driving force behind the decision to utilize mental health care within Latine families.

Census tract data on neighborhood makeups of Latine residents were also significantly associated with mental health care utilization. Within a neighborhood, a higher concentration of Latine individuals was associated with lower mental health care utilization over time. These higher concentrations of Latine individuals may serve as an alternative support service and foster a sense of belonging, which may serve as cultural assets in the face of depressive symptoms (García Coll et al., 1996; Seaton et al., 2022; Cooper et al., 2023). Touching base on LatCrit, it may be that the lack of mental health care utilization may be due to a lack of access to affordable and culturally inclusive services which in turn places more of an emphasis for the utilizing the power of the human collective (Huber, 2009; Cooper et al., 2023).

Furthermore, religiosity was also observed to be significantly related to mental health care utilization, such that increased religious beliefs were associated with utilizing mental health care. Prior research has indicated that Latine individuals may be more likely to endorse utilizing spiritual forms of treatment over psychological treatments (Santos & Kalibatseva, 2019). In tandem, it may be that religiosity is a cultural adaptive strength to fill the gap in resources present for Latine individuals' due to potential issues regarding lack of access to mental health care (Cooper et al., 2023). Thus, the current study counters this finding, but it is unclear why this relationship is moving in the same direction. It may be that one's religiosity may serve as a secure base for seeking out help from others in the face of depressive symptoms, such as seeking out a priest or praying to God for guidance (Cabassa et al., 2007). Another possibility is that many participants are using both professional mental health care and spiritual coping and are

experiencing improvements in mental health by employing both strategies. However, since this study did not test these effects, the utility of these approaches in combination remains unknown.

In the broader literature, the importance of family strengths in relation to depressive symptoms and mental health care utilization was evident (Piña-Watson & Castillo, 2015; Engelhard et al., 2022). However, the current study examined the extent to which these familial strengths mediated or moderated the relationship between adolescent depressive symptoms and mental health care utilization. Although none of the family strength variables directly affected mental health care utilization, there were significant indirect associations mediated through depressive symptoms. Mothers' warmth and family support were indirectly associated with mental health service utilization via depressive symptoms, whereby greater family strengths correlated with lower depressive symptoms and decreased service utilization. Thus, the mediation model showed that early family strengths were associated with mental health care utilization, but only through depressive symptoms. Once depressive symptoms were controlled for, those associations disappeared, indicating that either these family strengths are unrelated to mental health care utilization, or they affect it only through depressive symptoms.

As custodial guardians, parents assume a key role in their adolescents' mental health journey (Cauce et al., 2002; Olcón & Gulbas, 2018). Furthermore, Latine families are more likely to rely on personal support networks to mitigate depressive symptoms (Arnaez et al., 2020; Clement et al., 2015; Engelhard et al., 2022; Pineros-Leano et al., 2021; Cooper et al., 2023). However, contrary to initial hypotheses, a significant relationship was observed between mothers' engagement, increased depressive symptoms, and mental health service utilization. Existing literature indicates that mothers are more likely to endorse mental health services for their children than for themselves (Engelhard et al., 2022). If engagement is a response from

mothers, then MHC use for their children could be part of that engagement. Consequently, these findings emphasize the vital role that families, particularly mothers, play in the implementation of mental health treatment plans within Latine populations.

However, family systems theory further informs how familial strengths could serve as a protective moderator of the association between depressive symptoms and mental health care utilization (Cox & Paley, 2003). For instance, Latine adolescents transitioning into adulthood may be less likely to seek professional help through mental health care services and more likely to seek informal support networks, such as family members (Cauce et al., 2002; Cooper et al., 2023; Johnson & Possemato, 2019). Within the current study, maternal warmth, as perceived by adolescents, significantly moderated the association between depressive symptoms and mental health care utilization, such that this association was stronger when moms were perceived as warmer. Paternal warmth marginally moderated this association, such that this association was moderately stronger when dads were perceived as warmer. From prior studies, Latine adolescents whose families were supportive while they were experiencing depressive symptoms reported better engagement in mental health care (Stafford & Draucker, 2020). It may be that Latine adolescents who feel supported by their parents are more likely to seek out services, despite reluctance stemming from personal stigma or shame (Cauce et al., 2002; Cooper et al., 2023; Johnson & Possemato, 2019). Additionally, Latine adults who preferred to deal with their depressive symptoms on their own reported that they were not afraid to use services if their symptoms grew out of control (Martínez Pinay & Guarnaccia, 2007). Thus, early family strengths may provide a secure base for Latine adolescents to use mental health care services when they are experiencing depressive symptoms.

Subgroup Differences

When examining trajectories of depressive symptoms and mental health care utilization, there were no significant differences by ethnic origin. Puerto Ricans did not report statistically significant higher levels of depressive symptoms compared to other groups, inconsistent with previous research (Alcántara et al., 2015; López et al., 2012). The current study controlled for a host of factors, including generation status, household income, education, and language, which may account for most of the variability between Latine subgroups due to these socialization variables (Crockett et al., 2005; Pina & Martínez, 2025). However, for mental health care utilization trajectories, South/Central Americans showed significant changes and curvature, with higher MHC use in early adulthood compared with their Latine subgroup peers. Previous research has shown that Puerto Rican adults report higher rates of utilization than other Latine subgroup peers (Alegría et al., 2007). Thus, it may be more a matter of socialization and economic differences (e.g., greater economic stability in early adulthood, growing external ties) for South/Central Americans, which may explain why utilization increased only during early adulthood compared with their peers (Chang et al., 2014; Ruiz-Soto et al., 2021).

When examining the moderation of the relationship between family strengths and MHC utilization by ethnic origin, no significant effect was found. However, there was a significant moderation by ethnic origin of the association between perceptions of parental engagement and depressive symptoms. For Cubans, more perceived maternal engagement was associated with lower overall depressive symptoms compared to other Latine subgroups. Previous research has shown that Cubans' risk for depressive symptoms remains relatively stable over time (Lee & Park, 2017). However, Cubans are more likely to endorse traditional family perceptions, which may be more salient for them than for other Latine subgroups (Wakefield et al., 2025). Additionally, other Hispanics who perceived more engagement from their fathers were

associated with more depressive symptoms, versus their Cuban and Mexican peers, who saw a decrease in depressive symptoms. This may be an effect of that, as adolescents are more depressed, fathers are more likely to engage with them in both positive and negative ways (Pineros-Leano et al., 2021; Cooper et al., 2023; Raffaelli & Wiley, 2013).

Implications

The primary conclusion from the present study is that some early family strengths serve as significant indicators of decreased depressive symptoms and are associated with reduced utilization of mental health services throughout the lifespan. Consequently, there is a need to promote not only mental health treatment services but also to bolster parenting skills (Goodman, 2026). Recent research demonstrates potential in addressing both parental depressive symptoms and enhancement of parenting skills to mitigate the intergenerational transmission of depression risk (Goodman, 2026; Goodman & Garber, 2017). Specifically, interventions designed with cultural inclusivity to target depressive symptoms among family members and improve parenting practices, such as increasing parental warmth or support, would be highly advantageous for Latine adolescents (Goodman & Garber, 2017; Escobar-Galvez et al., 2023).

Additionally, the current study emphasizes the significance of fathers' warmth in alleviating depressive symptoms among Latinas. Although developmental research that includes fathers remains limited, existing studies underscore their crucial role in health development (Cabrera & Bradley, 2012; Davison et al., 2017; Lindsay et al., 2021; Roberts et al., 2022; Turner et al., 2023). Therefore, intervention programs should also earnestly strive to recruit and engage fathers.

Building on the Integrative Risk and Resilience (IRR) model, the current study underscores that early family relationships are strongly associated with better mental health

outcomes into adulthood, with a robust association spanning nearly 30 years (Suárez-Orozco et al., 2018; García Coll et al., 1996). Additionally, South/Central Americans had higher mental health care utilization during early adulthood than other Latine peers, pointing to potential differences that may stem from socialization or migration experiences (Suárez-Orozco et al., 2018; Solorzano & Yosso, 2001). From a LatCrit perspective, the current study found that economic factors were strongly related to mental health care utilization, highlighting how significant these barriers are to seeking care (Solorzano & Yosso, 2001). The study also showed that Latine families tended to draw on strengths such as warmth, support, and engagement, which were associated with lower youth depressive symptoms. Perceptions of mothers as warm and supportive were linked to lower depressive symptoms and lower mental health care utilization trajectories. These associations indicate that inter-familial strengths buffer against depressive symptoms and that families may manage mental health within the family before seeking services (Cox & Paley, 1997, 2003; Valdez et al., 2019; Martínez Pinay & Guarnaccia, 2007). Altogether, the current study expands the literature on Latine families experiencing depressive symptoms and highlights how families, especially Latine mothers, serve as pivotal sources of comfort that extend from adolescence into adulthood.

Limitations & Future Directions

One of the strengths of this study is its utilization of a nearly 40-year longitudinal study of a national sample of adolescents transitioning into adulthood. However, a limitation of this extensive dataset is that data collection initially took place between 1994 and 1996, with the most recent wave was collected between 2022 and 2025. Cohort effects are present, such as experiencing adulthood during the 2008 Great Recession, as noted in Study 2 (Perez-Brena et al.,

2025). Future longitudinal research should aim to collect data on current adolescents to enable comparison of trajectory impacts across generations.

While this study employs a robust Latine sample relative to other research, it was unable to examine cultural variables that could be significant in alleviating depressive symptoms. For example, familism, which emphasizes support and obligation to the family unit, has been associated with lower levels of depressive symptoms among Latine adolescents (Perreira et al., 2023; Cahill et al., 2021; Knight et al., 2010; Sabogal et al., 1987; Stein et al., 2014; Zeiders et al., 2016). Familism may serve as an additional source of resilience unique to Latine families in the context of depressive symptoms, particularly into adulthood (Piña-Watson et al., 2019; Cupito et al., 2016; Stein et al., 2014; Valdivieso-Mora et al., 2016). Thus, the second study within this dissertation will explore how familism values influence these relationships among Mexican-origin families.

The current study used a unidimensional item to measure mental health care utilization across time. Thus, no formal conclusions could be drawn regarding motivations for seeking MHC, direct barriers to care, or the time between experiencing depressive symptoms and the decision to seek MHC (Johnson & Possemato, 2019; Escobar-Galvez et al., 2023). Previous research has indicated that individuals experiencing depressive symptoms are more likely to utilize MHC services, a pattern replicated in the current study (Boerema et al., 2016; Cauce et al., 2002; Cummings, 2014). However, the current study also found that socioeconomic factors, such as household income, education, the proportion Hispanic within a census tract, and insurance status, were tied to mental health care utilization, rather than family strengths. This aligns with prior literature identifying financial concerns as one of the biggest barriers to utilizing care (Martínez Pinay & Guarnaccia, 2007). From a LatCrit perspective, the current

study does not do enough to ascertain how these structural factors impact mental health care utilization through a unidimensional item (Solorzano & Yosso, 2001). By utilizing secondary data, the current study could not be positioned to do a full examination of structural barriers to mental health care utilization. Additionally, LatCrit challenges researchers to utilize methodologies that acknowledge the power of the human collective and validate experiential knowledge (Bernal, 2002; Huber, 2009; Solorzano & Yosso, 2001).

Future researchers should evaluate whether mental health care via therapy is the only or best solution to address depressive symptoms in Latine populations (Cauce et al., 2002; Park et al., 2023). For instance, religiosity was found to be strongly associated with lower depressive symptoms and may offer an alternative avenue for positive coping that relies on prayer or religious services (Santos & Kalibatseva, 2019). Other Latine focus groups have also shown a willingness to manage symptoms on their own, but not with the help of a therapist (Cauce et al., 2002; Cooper et al., 2023; Johnson & Possemato, 2019). Another avenue may be to provide more mental health education through literacy formats best suited for Latine families and to encourage more parenting interventions for adolescents experiencing depressive symptoms (Escobar-Galvez et al., 2023). Future research should also ascertain what avenues Latine people are using, via qualitative interviews or focus groups, which is in line with LatCrit methodologies (Martínez Pinay & Guarnaccia, 2007; Vargas et al., 2015).

As previously stated, there is a need to expand research on barriers to seeking mental health care (MHC) within Latine populations. Limited mental health literacy and language barriers can substantially hinder trust in mental health services among Latine families (Escobar-Galvez et al., 2023). Future investigations might utilize qualitative methods to gain deeper insights from Latine individuals regarding their decision-making processes related to mental

health services from adolescence into adulthood (Platt et al., 2023). It is also crucial for future research to examine additional obstacles faced by Latine communities in accessing mental health care. Recent studies have demonstrated promising outcomes in addressing parental depressive symptoms and enhancing parenting skills to reduce the intergenerational transmission of depression risk (Goodman, 2026; Goodman & Garber, 2017). Therefore, it will be essential to investigate the strategies employed by Latine families to mitigate depressive symptoms and facilitate open communication about mental health topics across different generations.

CHAPTER 3 : FAMILY STRENGTH INFLUENCES ON DEPRESSIVE SYMPTOMS AMONG MEXICAN-AMERICAN FAMILIES AND THEIR IMPACT ON ADOLESCENTS' MENTAL HEALTH CARE UTILIZATION

Introduction

Adolescent depressive symptoms have been linked to adverse outcomes such as impairment in school performance, suicidal ideation, poorer overall health, and risk of stability into adulthood (Zychinski & Polo, 2012; Platt et al., 2023; Li et al., 2023; Benjet et al., 2020). Overall, Latine adolescents are at higher risk for the development of depression and less likely to utilize mental health services compared to White adolescents (Behnke et al., 2011; Simpson et al., 2024). Additionally, extensive research has shown that maternal depressive symptoms have been linked to increased depressive symptoms within their children (Cupito et al., 2016; Shafer et al., 2017; Acri et al., 2018; Engelhard et al., 2022; Reyes et al., 2025). However, paternal depression remains understudied, and the limited research is mixed on whether it relates to depressive symptoms in their children, especially within Latine samples (Roberts et al., 2022; Turner et al., 2023; Connell & Goodman, 2002; Thompson & Henrich, 2022). For instance, some studies have found that paternal depression was linked to increased internalizing symptoms in their children (Roberts et al., 2022), while others found that it had no impact at all (Connell & Goodman, 2002; Thompson & Henrich, 2022).

Latine families place great importance on cultural values such as familism, which emphasize strong familial relationships, respect for authority, an external locus of control, and acceptance of problems (Jiménez et al., 2019). These cultural values can be seen as sources of strength that may affect Latine adolescents' depressive symptoms (Cupito et al., 2016; Stein et al., 2014; Valdivieso-Mora et al., 2016). Thus, it is critical to consider the role that Latine

cultural values can play when it comes to depressive symptoms amongst Latine adolescents and their willingness to utilize mental health care services.

Mexican-Origin Significance

Mexican-origin children are at higher risk of experiencing economic and cultural stressors, such as poverty and discrimination, compared to White children (Flores et al., 2010; Park et al., 2024; Romero et al., 2020). These economic and cultural stressors can have pervasive impacts across the family unit by eroding inter-familial functioning, undermining parental mental health, and increasing the emotional-behavioral problems of children (Flores et al., 2010; Montero-Zamora et al., 2024; Stein et al., 2022). This, in turn, can influence the risk of depressive symptoms development in Mexican-origin adolescents and their parents. For example, Mexican immigrant parents reported experiencing higher levels of depressive symptoms compared to other Latine parents of different subgroups (Montero-Zamora et al., 2024). Additionally, although Mexican and Mexican-American individuals make up the largest Latine ethnic subgroup within the United States, they remain understudied in longitudinal research in comparison to White adolescents (U.S. Census Bureau, 2023; Benjet et al., 2020). Therefore, this dissertation aims to fill this gap by increasing research on Latine familial strengths in alleviating depressive symptoms, specifically within Mexican-origin families.

Etiology of Depression

Prior twin studies have broadly supported the moderate heritability of depression within families (Norton et al., 2025). Research on the biological mechanisms of the transmission of depression has focused on the genetic influences of diagnoses or symptoms of depression, and the idea of fetal or postnatal exposures that children of depressed mothers may have faced that

led to influences in brain development or hormonal functioning (Tully & Goodman, 2008). These vulnerabilities may manifest in children as interpersonal, behavioral, or cognitive problems, or as dysregulation of biological mechanisms of stress (Norton et al., 2025; Tully & Goodman, 2008). For instance, a child at risk for depression may have inherited greater emotional arousal to stimuli due to being the offspring of a depressed mother (Tully & Goodman, 2008). Additionally, they may inherit or learn based on their environment to develop an increased sense of guilt, learned helplessness, or negative views of the self (Tully & Goodman, 2008).

In addition to the genetic component, gender differences may arise from socialization and traditional gender roles. For instance, depressive symptoms increase in adolescence, with female adolescents having twice the risk for the development of depression compared to males (Norton et al., 2025; Rice et al., 2002). Female adolescents and adults are more likely than their male peers to report internalizing emotions and behaviors (Conley et al., 2023; Carrizales et al., 2025; Alvarez-Frank et al., 2026). Within *marianismo*, the value of silencing the self leads Latina mothers to express a willingness to endure their depressive symptoms to support their families over their own needs (Alvarez-Frank et al., 2026). Another explanation for the transmission of depression from parents to children is through parenting behaviors. Exposure to depressed mothers' negative affect or behaviors has been shown to be another avenue through which depressive symptoms in children and adolescents come about (Tully & Goodman, 2008). Additionally, Latine adolescents have expressed in focus groups that when their mothers are depressed, they will seek out external relationships to cope, especially with their fathers (Valdez et al., 2019). However, the same adolescents still expressed personal responsibility for their mothers' depression, attributing it to their actions or inactions within the home (Valdez et al.,

2019). Thus, it is essential to consider how depressive symptoms can be bidirectionally affected within families and how families may utilize family strengths in relation to inter-family depressive symptoms (Cox & Paley, 1997; 2003; Valdez et al., 2019).

Parental Depression

A family history of depression is associated with higher levels of parental depression, regardless of whether it was from their mother or father (Pineros-Leano et al., 2021). However, gender differences do arise in how depression symptomology as well as prevalence rates (National Institutes of Mental Health, 2024). For instance, men are more likely to express anger or irritation than sadness, unlike women when experiencing depressive symptoms (National Institutes of Mental Health, 2024). Across a 15-year study, fathers reported a slightly lower prevalence of depressive episodes than mothers (Pineros-Leano et al., 2021). However, in this study, this was more common among U.S.-born mothers and fathers, and the odds were lower among Latine parents than among White parents (Pineros-Leano et al., 2021). Additionally, some research showed that paternal depression was linked to increased internalizing symptoms in their children (Roberts et al., 2022). However, these results remain mixed as other studies have found that paternal depression does not have as much of an impact on internalizing symptoms, unlike maternal depression (Connell & Goodman, 2002; Thompson & Henrich, 2022). However, fathers remain understudied due to either their exclusion from study samples or parent attrition in larger studies (Agerup et al., 2015; Cabrera & Bradley, 2012; Thompson & Henrich, 2022).

As it stands, there is still a sparse amount of research examining the impact of mothers' and fathers' depression upon their adolescents' depressive symptoms. A study by Shafer and colleagues (2017) examined this among families of adolescents using community samples from

ten US cities. They found that for fathers, a one SD increase in their depressive symptoms related to a .14 SD increase in reported hostility. However, for mothers, they found that a one SD increase in their depressive symptoms related to a .10 decrease in reported warmth and a .18 decrease in monitoring (Shafer et al., 2017). When it came to impacting their adolescents' depressive symptoms, fathers' depressive symptoms and perceived hostility were directly associated. However, there was no impact of maternal depressive symptoms on the adolescent's depressive symptoms. Still, there was a direct effect of maternal warmth and monitoring on decreasing the adolescent's depressive symptoms (Shafer et al., 2017). An explanation for this disparity could be that fathers' depressive symptoms, expressed as hostility, more openly affected adolescents' depressive symptoms, while mothers' depressive symptoms were more internalized, making them less harmful to the adolescent (Shafer et al., 2017). Following this line of research, this dissertation will be critical in closing the gap on familial associations of depressive symptoms across parent-child dyads within Latine adolescents.

Previous Research Using the Juntos Project

This study builds upon previous research using our proposed data source: the Mexican American Families Project, a longitudinal study of Mexican-origin families (adolescents, mothers, and fathers) recruited in the Phoenix metropolitan area (Updegraff et al., 2005). Using this data, Zeiders et al. (2013) examined Mexican-origin adolescents' depressive symptoms trajectories from ages 12 to 22 years and the role of familism values. Males' trajectories of depressive symptoms followed a linear decline into adulthood, while females' trajectories followed a cubic growth pattern. Further, adolescents who reported higher-than-usual supportive and referent familism (i.e., the belief that one's behaviors should follow familial expectations) values (within-person effect) also reported lower depressive symptoms than usual. Additionally,

Zeiders et al. (2016) used the same sample to examine how parents' self-reported familism values when their adolescent was aged 12 predicted adolescents' depressive symptoms at age 19, with family strengths mediating this effect. Mothers' familism values at age 12 directly reduced female adolescents' depression symptoms at age 19. Fathers' familism values at age 12 positively predicted adolescents' depressive symptoms at age 19 through family time under the context of high father acceptance (for males and females) and high mother acceptance (for females only).

Context of the Juntos Data Collection Period

During data collection of the Juntos project, the 2007-2009 economic recession occurred, leading to bank failures, house foreclosures, job layoffs, and reduced employment opportunities (Duggan, 2023). For Latine families, this recession hit them very hard, with 66% families facing a significant reduction in household worth compared to White and Black families (16% and 53% respectively) (Kochhar et al., 2011). During the recession, families in the study experienced changes in family dynamics, developed strategies to manage hardship, and struggled with a sense of hope for their futures (Perez-Brena et al., 2025). Additionally, adolescents graduating from high school during the recession were less likely to pursue college, more likely to be employed in lower-wage jobs, and to experience conflicting emotions, ranging from perseverance to waning hopelessness (Perez-Brena et al., 2017, 2019).

The Present Study

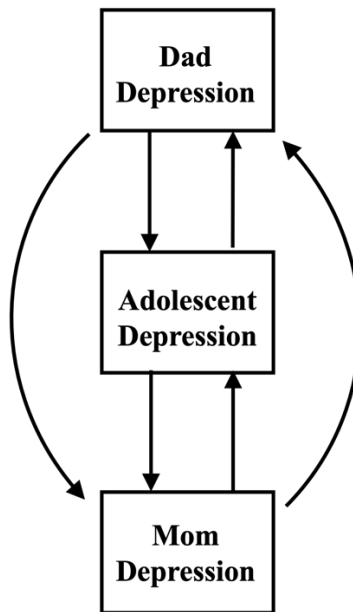
Compared with Add Health and other studies, the Juntos data includes both mothers' and fathers' depressive symptom measures, shorter intervals between measurement waves, and more in-depth measures of family strengths, including familism. This study will estimate bidirectional

relations amongst Mexican-origin adolescents' and their mothers' and fathers' depressive symptoms; examine mothers', fathers' and adolescents' depressive symptoms as predictors of mental health care utilization; investigate how family strengths (parental warmth, time with parents, familism values) are related to adolescents' depressive symptoms and to adolescents' mental health care utilization directly and indirectly via mothers', fathers', and adolescents' depressive symptoms; and examine whether family and cultural strengths moderate the association between depressive symptoms and mental health care utilization.

H0: Adolescents' depression symptoms from early adolescence to early adulthood are expected to relate bidirectionally with parents' depressive symptoms, with stronger associations from mother-to-adolescent versus father-to-adolescent (see Figure 14).

Figure 14.

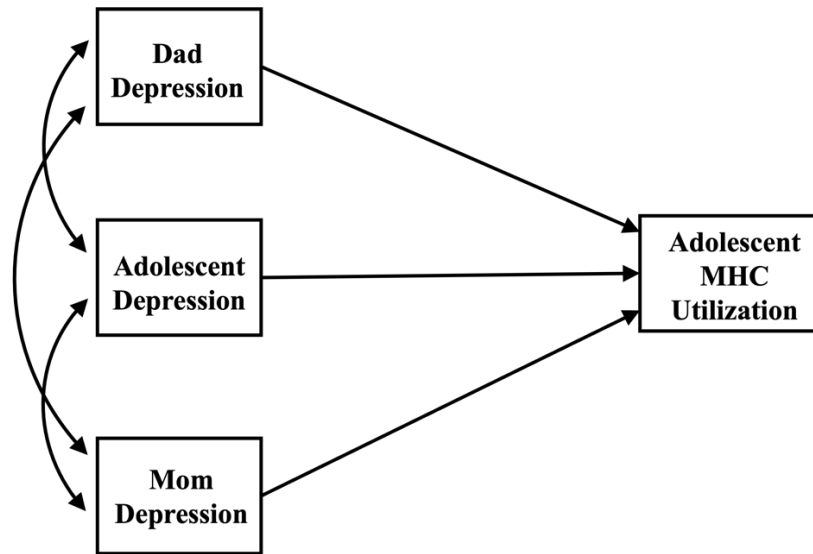
Bidirectional Association of Parent-Child Depression (H0)



H1: Mothers', fathers', and adolescents' depressive symptom trajectories will be positively associated with mental health care utilization (see Figure 15).

Figure 15.

Association of Parent and Adolescent Depression with Adolescent Mental Health Care Utilization (H1)



H2: Familial strengths will be negatively associated with adolescents', mothers', and fathers' depressive symptoms trajectories; and

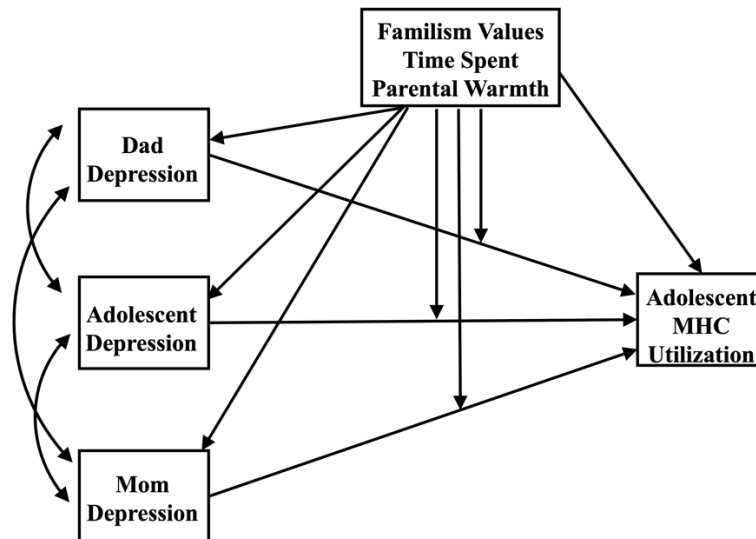
H3: Familial strengths will be positively associated with adolescents' mental health service utilization directly and indirectly through depression symptoms (see Figure 16).

H4: Family strengths will moderate the association between depressive symptoms of adolescents and their parents and adolescents' mental health care utilization, such that the association will be more negative under high levels of familism values, parental warmth, and greater time with family. Essentially, family strengths would be related to decreases in adolescents' depressive symptoms such that it would also be related to decreases in mental health care utilization as a result. (see Figure 16).

Figure 16.

Role of Family Strengths for Parent and Adolescent Depression and Adolescent MHC

Utilization (H2-4)

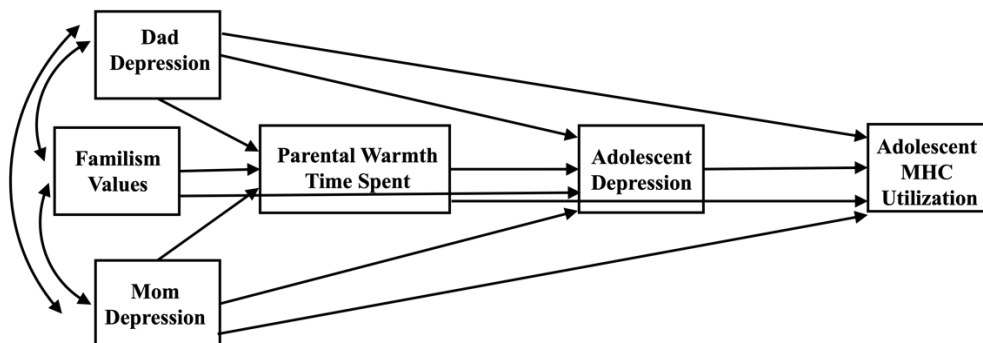


H2a-3a: Family strengths (i.e., parental warmth and time spent with family) will partially mediate the association between parents' and adolescents' depressive symptoms, and in turn, mediating subsequent mental health care utilization (see Figure 17).

Figure 17.

Role of Family Strengths for Parent and Adolescent Depression and Adolescent MHC

Utilization (H2a-3a Alternative Model)



Methods

Data & Procedures

Data came from a longitudinal study (i.e., the Mexican American Families Project; Juntos Project) of 246 two-parent Mexican-origin families raising two adolescents ($N = 492$) in a Southwestern U.S. state (Updegraff et al., 2005). Families were recruited through schools in the Phoenix metropolitan area and met three participation criteria: (1) family membership included a 7th grader (target child), at least one older adolescent sibling, a biological mother, and a biological or an adoptive father (who lived with the target child for at least 10 years) that all lived together; (2) mothers were of Mexican-origin; and (3) fathers were employed for pay for at least 20 hours per week. Letters and brochures in English and Spanish were mailed to families, and bilingual staff made follow-up telephone calls to determine eligibility and interest in participation (Updegraff et al., 2005). Schools were selected to represent a range of socioeconomic situations based upon the proportion of students receiving free or reduced lunch across five school districts and five parochial schools.

The longitudinal study had four phases between 2002 and 2010: Phase 1 (P1): target child in 7th grade; Phase 2 (P2): approximately 2 years after P1; Phase 3 (P3): approximately 5 years after P1; and Phase 4 (P4): approximately 7 years after P1. All family members were invited to participate in P1, P3, and P4; only the target child was asked to participate in P2.

Data was collected using in-home interviews and telephone calls. During the in-home interviews, parents and adolescents were read items about their personal qualities and family relationships. Bilingual interviewers conducted these interviews in separate areas and collected data on laptop computers. These interviews were generally 3 hours for parents and 2 hours for adolescents. During the three-to-four weeks following the interviews, bilingual interviewers

called families on seven nonconsecutive evenings (i.e., five weekdays and two weekend days). During each phone call, adolescents reported on their daily activities from 5 p.m. the previous day until 5 p.m. on the day of the call. Adolescents participated in all calls, but parents were asked to participate in only four, with one including both parents, to reduce participant burden. Families were compensated with \$100 for participating in home interviews and another \$100 at P1, \$125 at P3, and \$75 per person at P4 for participating in home and phone interviews, respectively. Target adolescents received \$40 for participating in a single phone interview for P2.

Sample

Of the original 421 eligible families (23% of the initial roster; 32% of those screened), 284 (67%) agreed to participate, 95 (23%) declined, and 42 (10%) moved away during the initial recruitment process. Of the 284 families who agreed to participate, 38 did not complete interviews, leaving a total sample of 246 families (Updegraff et al., 2005). This dissertation used parent and adolescent (i.e., younger and older siblings) data from P1, P3, and P4, as only the younger siblings had data collected at P2. For the siblings, data collected from the target younger sibling and their older sibling were stacked to increase the number of adolescents utilized in this sample. Thus, the final sample comprised 984 family members (246×4).

At P1, we can see that half of the adolescents were female (50%), preferred speaking English (87%), and were, on average, 14.49 years old (ages 11-21). Among mothers, 37% preferred speaking English, had an average of 10.7 years of schooling, and mainly were born outside the US (71%). Among fathers, 37% preferred speaking English, had an average of 10.08 years of schooling, and were mostly born outside the US (71%). The household income average

for the sample was \$60,300 with a range of \$5,000- > \$150,000, indicating a wide distribution within the sample. Table 9 provides descriptive statistics for across phases.

Table 9.*Descriptive Statistics for Phase 1*

Variable Name	N	Mean	SD	Min	Max
Mom's Age in Years	246	39.28	4.62	30.00	55.75
Dad's Age in Years	245	41.94	5.80	29.83	61.00
Adolescents' Age in Years	492	14.49	1.85	11.92	21.17
Adolescent Female	492	0.50	0.50	0.00	1.00
Mom's Years of Schooling	246	10.34	3.73	0.50	21.00
Dad's Years of Schooling	245	9.88	4.37	0.50	21.00
Adolescents' Grade	477	8.35	1.67	7.00	14.00
Adolescent in School	246	0.94	0.24	0.00	1.00
Mom's Born Outside US	246	0.71	0.46	0.00	1.00
Dad's Born Outside US	245	0.71	0.45	0.00	1.00
Adolescent Generation Status	475	2.07	1.12	1.00	4.00
Mom's Years in USA	174	12.38	8.85	0.25	46.00
Dad's Years in USA	174	15.18	8.76	0.25	42.00
Mom Preferred English	246	0.34	0.47	0.00	1.00
Dad Preferred English	245	0.32	0.47	0.00	1.00
Adolescent Preferred English	492	0.83	0.37	0.00	1.00
Household Size	246	5.94	1.62	4.00	15.00
Household Income	243	54.02	45.18	5.00	400.00
Degree of Poverty	246	0.20	0.40	0.00	1.00
Physical Health Status	326	3.45	1.02	1.00	5.00
Health Insurance Status	292	0.63	0.48	0.00	1.00

NOTE: Household income is in the thousands. Physical health status and health insurance status were collected at Phase 3 for baseline.

Measures

All measures utilized in the study were translated into Spanish, specifically for the Mexican dialect spoken in the local area, and back translated into English by separate individuals (Updegraff et al., 2009) (see Appendix A, Tables A4-6). All final translations of the measures were reviewed by a third native speaker, generally a Mexican individual, and any discrepancies or translation errors were resolved (Updegraff et al., 2009; Knight et al., 2009).

Depressive Symptoms (Parental & Youth). Adolescents', mothers', and fathers' depressive symptoms were assessed at P1, P3, and P4 using the 20-item Center for Epidemiological Studies Depression Scale (CESD; Radloff, 1977). The full 20 items were administered at all waves. Participants reported how frequently they experienced specific thoughts or emotions over the past week using a scale of 0 (*Rarely or none of the time [less than 1 day]*), 1 (*Some or a little of the time [1-2 days]*), 2 (*Occasionally or a moderate amount of time [3-4 days]*), or 3 (*Most or all of the time [5-7 days]*). The depression scale is a sum score of the CESD items. The CESD has shown adequate reliability and construct validity with Latines (Crockett et al., 2005; Zeiders et al., 2013). Additionally, the CESD provides clinical cut-off scores for identifying those at risk for depression (Lewinsohn et al., 1997). A score of 16 or higher indicates a risk for clinical depression and demonstrates high internal consistency and sensitivity (Radloff, 1977; Lewinsohn et al., 1997).

Utilizing Mental Health Care (MHC). Adolescents' MHC utilization was assessed at P3 and P4 using two items from Add Health (Harris, 2013). Respondents were asked: "*In the past year, have you received psychological or emotional counseling?*" Response options were 1 = *yes* or 0 = *no*. For this study, a single utilization variable was created by combining the P3 and P4 variables, with a value of 1 indicating MHC use at either time point.

Familism Values. Adolescents', mothers', and fathers' familism values at P1, P3, and P4 were assessed using the 16-item familism subscale of the Mexican American Cultural Values Scale (MACVS; Knight et al., 2010). This measure was developed for use with Mexican-origin adolescents and parents and demonstrates adequate reliability and construct validity across English and Spanish language versions (Knight et al., 2010). Items (e.g., *It is always important*

to be united as a family) are rated on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*) and were combined in a means score.

Parental Warmth. Adolescent reports of parental warmth were assessed at P1, P3, and P4 using the parental acceptance subscale of the Child's Report of Parent Behavior (CRPBI; Schaefer, 1965). This 8-item subscale has demonstrated adequate reliability and construct validity in Latine populations (Knight et al., 1992). Adolescents indicated on a 5-point scale from 1 (*almost never*) to 5 (*almost always*) on the positive emotional tone of the parent-child relationship (e.g., *My mom/dad tells or shows me that she/he likes me just the way I am*). Items were combined in a means score separately for mothers and fathers. Cross-language equivalence was found in both the English and Spanish versions of this measure (Knight et al., 1992).

Time Spent with Mothers and Fathers. Adolescent reports of time spent with mothers and fathers were assessed at P1, P3, and P4 using phone interviews. During the seven nightly phone calls at each phase, adolescents were guided through a cued-recall procedure (McHale et al., 1993; Zeiders et al., 2016) using a list of over 90 daily activities (grouped into categories, e.g., housework, homework, and leisure) to recall time spent in activities during non-school hours in the prior 24-hour period. Time spent with mothers and fathers, respectively, is summed across activities and days to yield the minutes each parent spent together. For the analysis, the amount of minutes was converted into hours for better interpretation. The time spent with each parent per seven days was computed by dividing the time with moms and dads by the total time across all seven phone calls and activities.

Time Spent with Family. Time spent with family was derived in a similar manner to time spent with parents. The total time spent with family, including extended family, was computed

by summing the time spent with mom, dad, siblings, and extended family across all seven phone calls and activities.

Covariates & Select Moderators. Adolescent sex assigned at birth (*female, male*), age, years lived in the U.S. at Phase 1, preferred language (English/ Spanish) of their interview, current health insurance status at Phases 3 and 4 (*yes/no*), and physical health status at Phases 3 and 4 (1 = *poor* to 5 = *excellent*) were included as covariates.

Moms' and dads' age, highest level of education at P1, and nativity, based on place of birth (i.e., born in the US or outside the US), were included as model covariates. Due to multicollinearity, only one parent's values were included in a model where most relevant, e.g., dad's values for dad's depression outcome. Additional covariates included household income (in \$1,000) and household size.

Analytic Strategy

Study hypotheses were evaluated using regression and path models in a structural equation modeling (SEM) framework (Bollen, 1989; Christ et al., 2014). Depression trajectory factor scores were obtained from mixed-effects models (Raudenbush & Bryk, 2002). All models evaluate time-varying outcomes and time-varying independent family support variables. Phase 1 values (or averages across waves as described in the measures section) were used for all other covariates. For trajectory models, adolescent (mom and dad) age was used as the unit of time, with age estimating linear changes in depressive symptoms (Bollen & Curran, 2006; Diggle, 2013).

Direct maximum likelihood (ML) was used to retain observations with item missing data within and across time due to attrition and random drop out (Arbuckle, 1996). Interaction terms were used to test for moderation. The product-of-coefficients method for indirect effects was

used to evaluate mediation (MacKinnon et al., 2002, 2007). SPSS and Stata were used for data preparation, descriptive statistics, and mixed-effects modeling (IBM Corp., 2023; StataCorp, 2024). Mplus software was used to estimate all other models (Muthén & Muthén, 2017). Because two youth per family are evaluated, standard errors are corrected for nesting of adolescents within families in all models.

To evaluate H0, a random-intercept cross-lagged panel model (RI-CPLM; Hamaker et al., 2015) of depressive symptoms for adolescents, fathers, and mothers across time was estimated (see Figure 3.6). Standardized cross-lagged paths were used to determine bidirectionality and identify the stronger driver (e.g., from mom to adolescent, from dad to adolescent, from adolescent to mom). This model provides estimates of the association of the person's mean levels of depression across time as well as the association of within-person deviations across moms, dads, and adolescents (Hamaker et al., 2015). Auto-regressive associations examine how much of the variance in adolescent depressive symptoms persisted at the next time point. While cross-lagged parameters allow us to assess whether higher than average levels of mothers' and fathers' depressive symptoms are associated with heightened levels of adolescents' depressive symptoms at the next time point and vice versa.

Depressive symptom trajectories and family support trajectories were evaluated in mixed-effects models. The predicted values for intercepts and slopes from these models were saved and used in subsequent analysis. For H1-H3, models evaluating the associations of trajectory components were evaluated. These models provided estimates of the association of levels and changes in family support with levels and changes in depression (H2) and MHC utilization (H3). Also, levels and changes in depressive symptoms were associated with MHC utilization (H1). Because these models were person level (utilizing person-level trajectory

component variables) and there was limited between-person variation in slopes for several family support trajectories, all hypotheses were also evaluated using within-time levels with stacked data. These stacked models were also used to evaluate the mediation (H3) and moderation (H4) hypotheses primarily due to increased statistical power and simplicity. Covariates were included in all models. Hypothesized relationships of family supports with depression were tested for moderation by adolescent sex at birth.

Attrition Analyses

Previous research using this sample has noted attrition among participants across waves. Updegraff and colleagues (2012; 2014) found that 75% of families ($n = 184$) remained at P3 to continue participating with the younger, target child present. When examining P4, 70% of families remained. Essentially, 43 families at P3 and 45 at P4 could not be relocated; 2 families at P3 and 4 at P4 had moved to Mexico; 8 at P3 and 4 at P4 could no longer participate or faced difficulties with contact; and 8 at P3 and 8 at P4 refused to participate further. When comparing the remaining families who remained at P3 and P4, they found significant differences: the non-participants had lower yearly household income and lower parental education at P3 and P4. Thus, household income and parental education were included as covariates in all longitudinal analyses to develop a missing-at-random (MAR) model when using FIML.

Results

Depressive Symptom and Family Support Descriptives

Descriptive statistics for focal variables across adolescents, mothers, and fathers pooled over P1, P3, and P4 are presented in Table 10. Mental health care utilization across P3 and P4 was relatively low (6% of adolescents). On average, fathers' depressive symptoms (12.13) were

lower than adolescents' (14.69) and mothers' (15.14) symptoms, but all these average scores were relatively low in terms of depressive symptomology (range: 0-53). In consideration of cut points for clinical concern, average depression levels remained below the clinical cut point of 16 for clinical concern, with mothers' levels closest to the cut point and fathers' levels lowest. Adolescents reported high levels of warmth among mothers (4 average on a 5-pt scale) and more moderate levels for fathers (3.66 average). Familism was rated high by all respondents, averaging over 4 on a 5-point scale. Adolescents spent more time with their mothers (10.47 hours) than with their fathers (8.05 hours) per seven days. Collectively, adolescents reported spending an average of 60 hours per seven days with family members (e.g., parents, siblings, extended family).

Next, pairwise correlations were computed for the focal variables and the covariates of interest (Table C1 in Appendix C). Because the focal variables were nested within families, they could not be assessed for statistical significance. However, examining the coefficient values, we can see that adolescent sex (-0.15), physical health status (-0.35), mother's depressive symptoms (0.24), and father's depressive symptoms (0.18) showed the strongest associations with adolescent depressive symptoms pooled across time points. In addition, Depressive symptoms across family members and time points were all positively and moderately associated (Table 11).

Table 10.*Descriptive Statistics for Focal Variables (pooled over P1, P3 and, P4)*

Variable Name	N	Mean	SD	Min	Max
Mom's Depressive Symptoms	585	15.14	10.51	0.00	52.00
Dad's Depressive Symptoms	534	12.13	9.13	0.00	51.00
Adolescents' Depressive Symptoms	1,127	14.69	9.74	0.00	53.00
Mom's Warmth	1,074	4.00	0.80	1.00	5.00
Dad's Warmth	1,048	3.66	0.93	1.00	5.00
Mom's Familism	559	4.42	0.39	2.69	5.00
Dad's Familism	514	4.46	0.40	2.81	5.00
Adolescent's Familism	1,068	4.23	0.51	1.06	5.00
Time with Family Per Week	1,054	60.36	17.78	16.46	117.08
Time with Mom Per Week	1,054	10.47	9.02	0.00	62.21
Time with Dad Per Week	1,054	8.05	7.80	0.00	40.50
Mental Health Care Use	1,014	0.06	0.24	0.00	1.00

Table 11.*Bivariate Correlations for Depressive Symptoms across Family Members within Time*

	1	2	3	4	5	6	7	8	9
1. Mom's Depressive Symptoms P1	1								
2. Mom's Depressive Symptoms P3	0.52**	1							
3. Mom's Depressive Symptoms P4	0.48**	0.61**	1						
4. Dad's Depressive Symptoms P1	0.32**	0.21**	0.09	1					
5. Dad's Depressive Symptoms P3	0.34**	0.22**	0.20*	0.45**	1				
6. Dad's Depressive Symptoms P4	0.22**	0.13	0.17	0.43**	0.55**	1			
7. Adolescents' Depressive Symptoms P1	0.22**	0.23**	0.26**	0.15*	0.12	0.10	1		
8. Adolescents' Depressive Symptoms P3	0.23**	0.24**	0.32**	0.23**	0.18*	0.19*	0.36**	1	
9. Adolescents' Depressive Symptoms P4	0.29**	0.21*	0.25**	0.16*	0.27**	0.26**	0.36**	0.56**	1

NOTE: * = < .05. ** = < .01

Depression Trajectories

Overall, depressive symptoms for all family members decreased over time from ages 12 to 27 for adolescents, and ages 30 to 60 for parents (Figure 18). Adolescent depressive symptoms (ADS) decreased by .47 points for each additional year of age starting at age 12 ($p = .00$) (see Table C5), while fathers' depressive symptoms (DDS) decreased by .15 points ($p =$

.04). For mothers, depressive symptoms (MDS) appeared to remain relatively stable over time, with symptoms decreasing by only 0.11 points per year ($p = .21$). However, when running the marginal model estimates (i.e., population-average effects), all family members' depressive symptoms appeared to be decreasing at a significant rate (ADS: $b = -0.43$, $p = .00$; MDS: $b = -0.21$, $p = .03$; DDS: $b = -0.19$, $p = .01$) (Table C5 in Appendix C).

Correlations among the depressive symptom trajectory predicted intercepts (levels) and slopes (changes) are displayed in Table 12. All family members' depressive symptom levels were significantly correlated across timepoints ($p = 0.00$). For example, in terms of inter-familial trajectories, mothers' depressive symptoms increased from age 30 to 60, so did their husbands' and adolescents' depressive symptoms ($p = 0.00$). Across time, family members' depressive symptoms moved together.

Figure 18.

Depressive Symptom Trajectories by Age

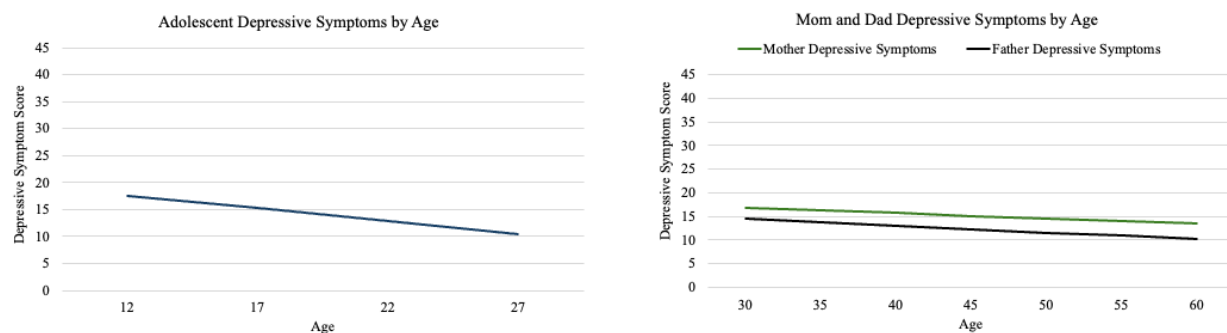


Table 12.*Depression Symptoms Trajectory Components Pairwise Correlations*

	ADS Int	MDS Int	DDS Int	ADS Slp	MDS Slp	DDS Slp
<i>Trajectory Intercepts</i>						
Adolescent Depression Symptoms (age 12)	--					
Mom Depressive Symptoms (age 30)	0.34 0.00	--				
Dad Depressive Symptoms (age 30)	0.22 0.00	0.28 0.00	--			
<i>Trajectory Slopes</i>						
Adolescent Depression Symptoms Change	0.71 0.00	0.26 0.00	0.18 0.00	--		
Mom Depressive Symptoms Change	0.27 0.00	0.84 0.00	0.17 0.00	0.23 0.00	--	
Dad Depressive Symptoms Change	0.21 0.00	0.26 0.00	0.88 0.00	0.18 0.00	0.21 0.00	--

NOTE: Correlations are among predicted random effects from the mixed-effects trajectory models. P-values below correlation coefficients. Bolded values indicate significance.

Cross-Lag Panel Model Results (H0)

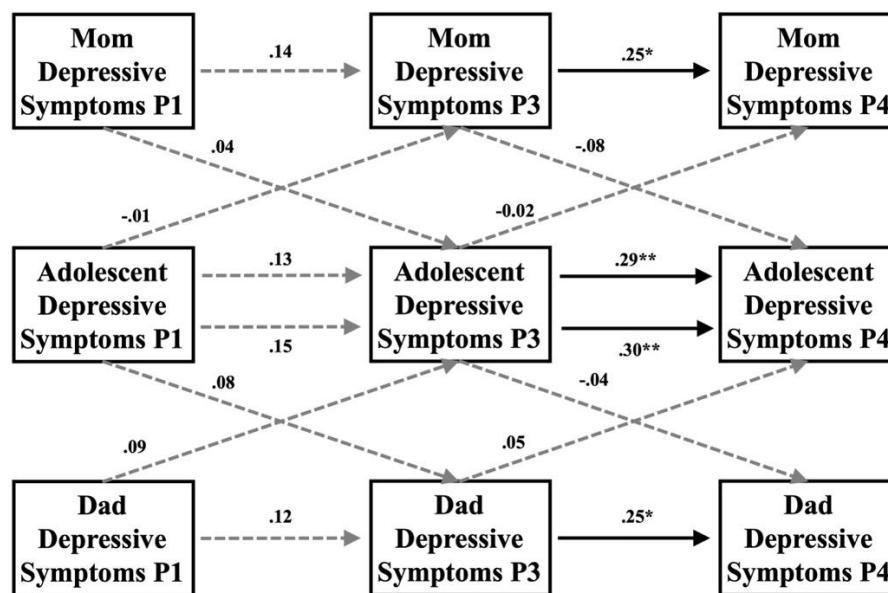
RI-CLPMs were fit using each time point of depressive symptoms to determine bidirectionality and to identify the stronger driver (from mom to adolescent, dad to adolescent, adolescent to mom, etc.) (see Figures 19-120). For these time points, it was five years between P1 and P3 and two years between P3 and P4. Overall, we found that autoregressive paths between P3 and P4 depressive symptoms for all family members (youth-mom, youth-dad, dad-mom) were significant (see Tables C2-C4). Of particular importance, the intercepts (person level means over time) between mother-adolescent ($\beta=.68$, 95% CI =0.36, 1.00, $p = .00$) and mother-father ($\beta=.40$, 95% CI =0.05, 0.75, $p = .03$) depressive symptoms across that 2-year period were significantly associated. Thus, H0 was partially supported at Phases 3 and 4 for all family members' depression.

All other autoregressive and cross-lagged paths were not statistically significant (Figures 19-20). Fit to the data for the model with mothers' and adolescents' depressive symptoms was excellent (root mean square of approximation [RMSEA] = 0.00; comparative fit index [CFI] =

1.00; Tucker-Lewis index [TLI] = 1.01). Similar model fit was found for the model with fathers' and adolescents' depressive symptoms (RMSEA = 0.00; CFI = 1.00; TLI = 1.04). Age was added as a control variable for both models, but model fit declined ([RMSEA = 0.06; CFI = 0.96; TLI = 0.90]; [RMSEA = 0.04; CFI = 0.97; TLI = 0.92], respectively) and age showed no significant impact for either model. Lastly, fit to the data for the model with mother and father depressive symptoms was also good (RMSEA = 0.05; CFI = 1.00; TLI = 0.97).

Figure 19.

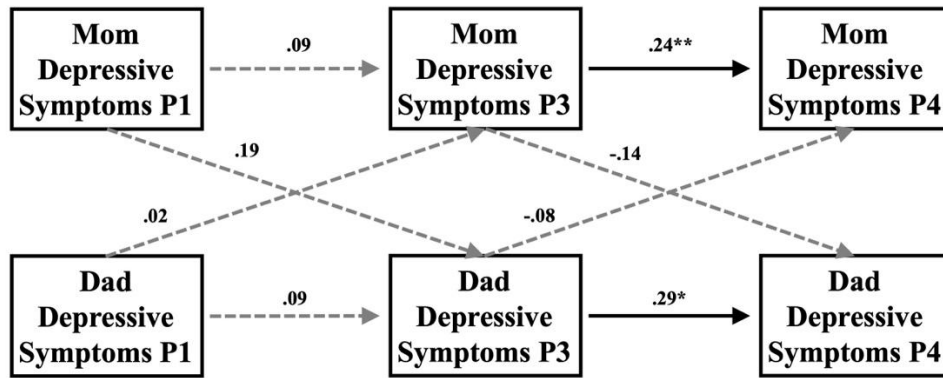
Final Random Intercept Cross-Lagged Panel Models for Family Members



*NOTE: Analysis was nested within family ID. Significant autoregressive paths are in black while all nonsignificant paths are in dotted gray. Associations controlled for age, but were not significant. * = < 0.05; ** = < 0.01. P1 to P3 = 5 years. P3 to P4 = 2 years.*

Figure 20.

Final RI-CLPM for Parents Depressive Symptoms



NOTE: Analysis was nested within family ID. Significant autoregressive paths are in black, while all nonsignificant paths are in dotted gray. * = < 0.05; ** = < 0.01. P1 to P3 = 5 years. P3 to P4 = 2 years.

Structural Equation Model Results

Family Strengths and Depressive Symptoms (H2)

Pooled, within-time associations between family members' depressive symptoms and family strengths are given in Table 13 and associations using trajectory intercepts (levels when adolescents are age 12) are provided in Table 14 (for all covariate effects, see Tables D1-D2 in Appendix D). Family strengths, including parents' warmth (Mom's: $b = -2.73, p = .00$; Dad's: $b = -0.94, p = .02$) and time spent with family ($b = 0.05, p = .02$), were significantly associated with adolescents' depressive symptoms (Table 13). However, the associations for depressive symptom trajectory intercepts held only for mothers' warmth, where levels were associated when adolescents were age 12 ($b = -2.70, p = .00$). For mothers, there were no significant associations between depressive symptoms and family strengths (Table 13), with only adolescents' perception of fathers' warmth were significantly related to mom's depressive symptoms intercepts, i.e., when adolescents are age 12 ($b = -1.77, p = .01$). Lastly, fathers' depressive symptom levels (both within time and at age 12) were significantly associated with

adolescents' perception of their warmth ($b = -1.06, p = .03$; $b = -1.03, p = .01$, respectively).

Overall, we see that H2 was fully supported for adolescent depressive symptom trajectories, partially for fathers', and not at all for mothers.

Table 13.*Family Members' Depression Associations with Family Strengths (f= 246, y= 492, o= 1,476)*

	Adolescents' Depressive Symptoms				
	b	95% CI	p-value	Beta	
<i>Family Strengths</i>					
Mom's Warmth (1-5)	-2.73	-3.65	-1.80	0.000	-0.22
Dad's Warmth (1-5)	-0.94	-1.74	-0.14	0.021	-0.09
Family Time (16-117 per week)	0.05	0.01	0.08	0.024	0.09
Mom Time (0-62 per week)	0.03	-0.09	0.15	0.607	0.03
Dad Time (0-41 per week)	-0.03	-0.16	0.10	0.624	-0.03
Adolescent's Familism (1-5)	-0.03	-1.24	1.18	0.963	0.00
Mom's Familism (2.7-5)	-0.54	-2.09	1.02	0.497	-0.02
Dad's Familism (2.8-5)	-1.46	-3.12	0.20	0.085	-0.06
R ²	0.237				
	Mom's Depressive Symptoms				
	b	95% CI	p-value	Beta	
<i>Family Strengths</i>					
Mom's Warmth (1-5)	-1.24	-2.58	0.10	0.070	-0.09
Dad's Warmth (1-5)	-1.00	-2.05	0.05	0.062	-0.09
Family Time (16-117 per week)	0.01	-0.04	0.05	0.791	0.01
Mom Time (0-62 per week)	-0.05	-0.19	0.10	0.544	-0.04
Dad Time (0-41 per week)	-0.05	-0.21	0.12	0.581	-0.03
Adolescent's Familism (1-5)	1.04	-0.33	2.41	0.136	0.05
Mom's Familism (2.7-5)	-0.21	-3.13	2.70	0.886	-0.01
Dad's Familism (2.8-5)	-0.91	-3.39	1.57	0.470	-0.04
R ²	0.122				
	Dad's Depressive Symptoms				
	b	95% CI	p-value	Beta	
<i>Family Strengths</i>					
Mom's Warmth (1-5)	-0.44	-1.72	0.83	0.496	-0.04
Dad's Warmth (1-5)	-1.06	-2.00	-0.11	0.029	-0.11
Family Time (16-117 per week)	0.02	-0.03	0.06	0.476	0.03
Mom Time (0-62 per week)	-0.04	-0.21	0.13	0.638	-0.04
Dad Time (0-41 per week)	-0.01	-0.22	0.20	0.948	-0.01
Adolescent's Familism (1-5)	-0.46	-1.79	0.87	0.498	-0.03
Mom's Familism (2.7-5)	0.66	-1.84	3.16	0.606	0.03
Dad's Familism (2.8-5)	0.50	-2.12	3.12	0.708	0.02
R ²	0.112				

NOTE: Bolded values indicate significance.

Table 14.*Family Members' Depression Trajectory Levels Associations with Family Strengths (f=246,**y=492)*

Adolescents' Depressive Symptom Intercept					
	b	95% CI	p-value	Beta	
<i>Family Strengths</i>					
<u>Levels at age 12/30 (intercepts)</u>					
Mom's Warmth (1-5)	-2.70	-3.85	-1.55	0.000	-0.25
Dad's Warmth (1-5)	-0.89	-1.85	0.07	0.069	-0.09
Family Time (16-117 per week)	0.16	-0.36	0.68	0.550	0.03
Mom Time (0-62 per week)	0.04	-0.13	0.21	0.646	0.03
Dad Time (0-41 per week)	-0.03	-0.23	0.18	0.788	-0.02
Adolescent's Familism (1-5)	0.00	-2.00	1.99	0.998	0.00
Mom's Familism (2.7-5)	-0.55	-2.18	1.08	0.511	-0.03
Dad's Familism (2.8-5)	-0.90	-1.97	0.18	0.101	-0.07
R ²	0.295				
Mom's Depressive Symptom Intercept					
	b	95% CI	p-value	Beta	
<i>Family Strengths</i>					
<u>Levels at age 12/30 (intercepts)</u>					
Mom's Warmth (1-5)	-1.50	-3.08	0.08	0.063	-0.12
Dad's Warmth (1-5)	-1.77	-3.10	-0.44	0.009	-0.16
Family Time (16-117 per week)	-0.21	-0.85	0.43	0.522	-0.03
Mom Time (0-62 per week)	-0.01	-0.25	0.23	0.934	-0.01
Dad Time (0-41 per week)	-0.07	-0.37	0.22	0.626	-0.04
Adolescent's Familism (1-5)	0.55	-1.91	3.01	0.661	0.02
Mom's Familism (2.7-5)	0.36	-2.70	3.42	0.820	0.02
Dad's Familism (2.8-5)	-0.55	-2.35	1.25	0.548	-0.04
R ²	0.163				
Dad's Depressive Symptom Intercept					
	b	95% CI	p-value	Beta	
<i>Family Strengths</i>					
<u>Levels at age 12/30 (intercepts)</u>					
Mom's Warmth (1-5)	-0.38	-1.36	0.59	0.442	-0.05
Dad's Warmth (1-5)	-1.03	-1.80	-0.25	0.009	-0.15
Family Time (16-117 per week)	-0.09	-0.52	0.34	0.680	-0.02
Mom Time (0-62 per week)	-0.05	-0.21	0.11	0.534	-0.06
Dad Time (0-41 per week)	0.06	-0.16	0.28	0.607	0.05
Adolescent's Familism (1-5)	-0.83	-2.63	0.97	0.366	-0.05
Mom's Familism (2.7-5)	0.31	-1.54	2.17	0.741	0.02
Dad's Familism (2.8-5)	-0.17	-1.38	1.03	0.780	-0.02
R ²	0.134				

NOTE: Slope effects for all familism variables, time with mom, and time with dad were omitted due to no inter-individual variance. Bolded values indicate significance.

Table 15.

Family Members' Depression Trajectory Changes Associations with Family Strengths (f=246, y=492)

	Adolescents' Depressive Symptom Slope				
	b	95% CI		p-value	Beta
<i>Family Strengths</i>					
<u>Levels at age 12/30 (intercepts)</u>					
Mom's Warmth (1-5)	-0.04	-0.07	0.00	0.048	-0.12
Dad's Warmth (1-5)	0.00	-0.04	0.03	0.825	-0.01
Family Time (16-117 per week)	0.01	-0.03	0.04	0.755	0.03
Mom Time (0-62 per week)	0.00	-0.01	0.01	0.890	-0.01
Dad Time (0-41 per week)	0.00	-0.01	0.01	0.976	0.00
Adolescent's Familism (1-5)	0.02	-0.04	0.08	0.426	0.04
Mom's Familism (2.7-5)	-0.01	-0.06	0.03	0.547	-0.03
Dad's Familism (2.8-5)	0.01	-0.02	0.04	0.508	0.03
<u>Change Over Time (slopes)</u>					
Mom's Warmth	-0.82	-1.23	-0.40	0.000	-0.20
Dad's Warmth	-0.19	-0.48	0.10	0.206	-0.07
Family Time	0.01	-0.02	0.03	0.708	0.03
R ²	0.247				
	Mom's Depressive Symptom Slope				
	b	95% CI		p-value	Beta
<i>Family Strengths</i>					
<u>Levels at age 12/30 (intercepts)</u>					
Mom's Warmth (1-5)	-0.06	-0.11	-0.01	0.032	-0.13
Dad's Warmth (1-5)	-0.03	-0.08	0.02	0.236	-0.07
Family Time (16-117 per week)	-0.01	-0.05	0.02	0.510	-0.05
Mom Time (0-62 per week)	0.00	-0.01	0.01	0.784	0.03
Dad Time (0-41 per week)	0.00	-0.01	0.01	0.941	0.01
Adolescent's Familism (1-5)	0.07	-0.03	0.16	0.161	0.07
Mom's Familism (2.7-5)	0.01	-0.11	0.14	0.832	0.02
Dad's Familism (2.8-5)	-0.03	-0.09	0.04	0.407	-0.05
<u>Change Over Time (slopes)</u>					
Mom's Warmth	0.08	-0.42	0.58	0.742	0.01
Dad's Warmth	-0.19	-0.52	0.15	0.277	-0.05
Family Time	0.01	-0.01	0.04	0.224	0.07
R ²	0.119				
	Dad's Depressive Symptom Slope				
	b	95% CI		p-value	Beta
<i>Family Strengths</i>					
<u>Levels at age 12/30 (intercepts)</u>					
Mom's Warmth (1-5)	-0.04	-0.08	0.01	0.128	-0.10
Dad's Warmth (1-5)	-0.03	-0.07	0.01	0.122	-0.10
Family Time (16-117 per week)	-0.02	-0.04	0.01	0.243	-0.08
Mom Time (0-62 per week)	0.00	-0.01	0.01	0.971	0.00
Dad Time (0-41 per week)	0.00	-0.01	0.01	0.775	0.03
Adolescent's Familism (1-5)	0.02	-0.06	0.10	0.666	0.02
Mom's Familism (2.7-5)	0.00	-0.10	0.09	0.946	-0.01
Dad's Familism (2.8-5)	0.01	-0.04	0.07	0.651	0.03
<u>Change Over Time (slopes)</u>					
Mom's Warmth	0.19	-0.07	0.45	0.149	0.04
Dad's Warmth	-0.21	-0.40	-0.02	0.029	-0.07
Family Time	0.02	0.00	0.03	0.046	0.10
R ²	0.093				

NOTE: Slope effects for all familism variables, time with mom, and time with dad were omitted due to no inter-individual variance. Bolded values indicate significance.

Associations among trajectory slopes (changes) in family members' depressive symptoms with family strengths changes are presented in Table 14 (see Table D3 in Appendix D for covariate effects). High maternal warmth early on decreased both adolescent ($b = -0.04, p = .05$) and maternal ($b = -0.06, p = .03$) depressive symptoms over time. As maternal warmth increased over time, adolescent depressive symptom trajectories appeared to decline ($b = -0.82, p = .00$). Lastly, for fathers' depressive symptom changes over time, warmth perceived by their adolescent decreased their symptoms ($b = -0.21, p = .03$), while more time spent with family increased their symptoms ($b = 0.02, p = .05$). Overall, H2 was partially supported for trajectories of depressive symptoms within family members being negatively associated with family strengths, but only for parental warmth.

Full models, including covariates, explained a low to moderate degree of variance in time-varying depressive symptoms (ADS: $R^2 = .24$; MDS: $R^2 = .12$; DDS: $R^2 = .11$) and trajectory intercepts (ADS: $R^2 = .30$; MDS: $R^2 = .16$; DDS: $R^2 = .13$) and slopes (ADS: $R^2 = .25$; MDS: $R^2 = .12$; DDS: $R^2 = .09$). Adolescent health status was the strongest association across all family members' depressive symptoms ($p < .01$) and being female and age mattered most for adolescent depressive symptoms ($p < .05$) for both within-time associations and trajectory models (see Tables D1-D2 in Appendix D).

Family Strengths, Depressive Symptoms, and Mental Health Care (MHC) (H1 & H3)

Results for the associations between depressive symptoms and mental health care (MHC) utilization (H1) and family strengths and mental health care (MHC) utilization (H3), including indirect effect through depression are provided in Tables 13-14 below. Adolescents with a one-point increase in depressive symptoms were 4% more likely to utilize MHC services, which was a decent effect ($\beta = 0.18; p = .01$) (Table 16). For H1, it seemed like only adolescents'

depressive symptom trajectories were associated with MHC utilization and not parents' depressive symptoms.

Adolescents who spent an additional hour of family time per week were 2% more likely to utilize MHC services ($\beta = 0.16$; $p = .01$). Models evaluating family strengths and depressive symptom trajectory intercepts and slopes with MHC utilization did not have any significant associations between levels or changes over time with MHC ($p > .05$) (see Table C9 in Appendix C). Among covariates (see Table D4 in Appendix D), adolescents with higher household incomes were 1% more likely ($\beta = 0.19$; $p = .02$), and those with more educated mothers were 18% more likely ($\beta = 0.27$; $p = .02$) to utilize MHC services. Family strengths and depressive symptoms were not significantly associated with levels or change in MHC utilization thus disproving part of H3.

However, there was evidence of some mediated effects of family supports through depressive symptoms on MHC utilization (Table 17). A unit increase in mom's warmth was associated with 11% lower odds of utilizing MHC through adolescents' depressive symptoms ($\beta = -0.04$; $p = .03$). Dads' warmth also marginally lowered the odds of MHC utilization by 4% through adolescents' depressive symptoms ($\beta = -0.02$; $p = .07$). Family supports were not related to MHC utilization through mom's or dad's depressive symptoms. However, total indirect associations of mom's warmth, and moderately for dad's warmth, with adolescent MHC utilization through all three depressive symptom time points were stronger and negative (Table 17). Thus, indirect associations between family strengths, particularly for mothers' warmth, and family depressive symptoms were fully supported within H3.

Table 16.*Adolescent Mental Health Care Associations with Family Strengths and Family Members'**Depression (f=246, y=492, o=1,476)*

	Adolescents' Mental Health Care				
	OR	95% CI		p-value	Beta
<i>Family Depressive Symptoms</i>					
Adolescents' Depressive Symptoms (0-53)	1.04	1.01	1.08	0.012	0.18
Mom's Depressive Symptoms (0-52)	1.03	0.99	1.07	0.123	0.14
Dad's Depressive Symptoms (0-52)	1.01	0.96	1.05	0.823	0.02
<i>Family Strengths</i>					
Mom's Warmth (1-5)	0.72	0.45	1.15	0.167	-0.12
Dad's Warmth (1-5)	0.83	0.52	1.31	0.411	-0.08
Family Time (16-117 per week)	1.02	1.00	1.04	0.012	0.16
Mom Time (0-62 per week)	0.99	0.96	1.03	0.756	-0.03
Dad Time (0-41 per week)	0.97	0.91	1.03	0.356	-0.10
Adolescent's Familism (1-5)	1.47	0.65	3.30	0.352	0.09
Mom's Familism (2.7-5)	1.59	0.48	5.25	0.446	0.08
Dad's Familism (2.8-5)	1.07	0.28	4.12	0.921	0.01
psuedo R ²	0.367				

NOTE: Bolded values indicate significance.

Table 17.

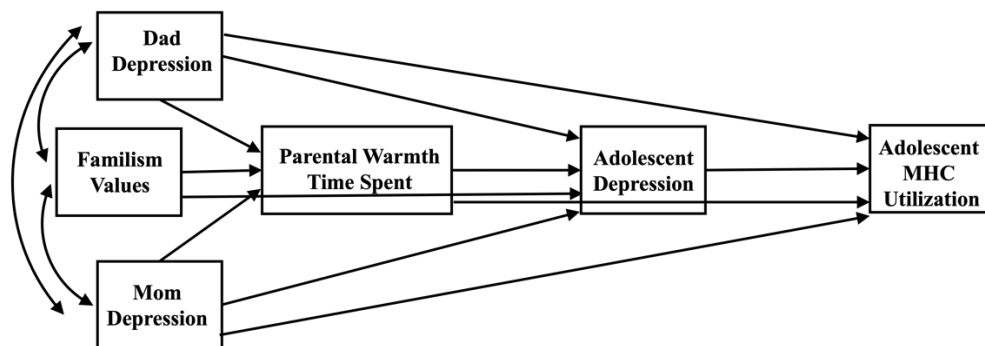
Indirect Associations of Family Strengths with Adolescent Mental Health Care Through Family Members' Depression (f=246, y=492, o=1,476)

	Adolescents' Mental Health Care				Beta
	OR	95% CI	p-value		
<i>Indirect through Adolescent's Depressive Symptoms</i>					
MW -> ADS -> MHC	0.89	0.81	0.99	0.028	-0.04
DW -> ADS -> MHC	0.96	0.92	1.00	0.074	-0.02
FT -> ADS -> MHC	1.00	1.00	1.00	0.087	0.02
MT -> ADS -> MHC	1.00	1.00	1.01	0.630	0.01
DT -> ADS -> MHC	1.00	0.99	1.00	0.626	-0.01
AF -> ADS -> MHC	1.00	0.95	1.05	0.976	0.00
MF -> ADS -> MHC	0.98	0.91	1.05	0.524	0.00
DF -> ADS -> MHC	0.94	0.86	1.03	0.173	-0.01
<i>Indirect through Mom's Depressive Symptoms</i>					
MW -> MDS -> MHC	0.96	0.89	1.03	0.295	-0.01
DW -> MDS -> MHC	0.97	0.92	1.02	0.224	-0.01
FT -> MDS -> MHC	1.00	1.00	1.00	0.629	0.00
MT -> MDS -> MHC	1.00	0.99	1.00	0.539	-0.01
DT -> MDS -> MHC	1.00	0.99	1.00	0.621	-0.01
AF -> MDS -> MHC	1.03	0.97	1.10	0.329	0.01
MF -> MDS -> MHC	0.99	0.91	1.09	0.871	0.00
DF -> MDS -> MHC	0.97	0.89	1.06	0.493	-0.01
<i>Indirect through Dad's Depressive Symptoms</i>					
MW -> DDS -> MHC	1.00	0.97	1.02	0.813	0.00
DW -> DDS -> MHC	0.99	0.95	1.04	0.807	0.00
FT -> DDS -> MHC	1.00	1.00	1.00	0.806	0.00
MT -> DDS -> MHC	1.00	1.00	1.00	0.815	0.00
DT -> DDS -> MHC	1.00	1.00	1.00	0.964	0.00
AF -> DDS -> MHC	1.00	0.97	1.02	0.803	0.00
MF -> DDS -> MHC	1.00	0.97	1.04	0.830	0.00
DF -> DDS -> MHC	1.00	0.98	1.03	0.812	0.00
<i>Total Indirect Associations through all Depression</i>					
MW Total Indirect	0.86	0.74	0.99	0.040	-0.06
DW Total Indirect	0.92	0.85	1.01	0.076	-0.03
FT Total Indirect	1.00	1.00	1.01	0.177	0.02
MT Total Indirect	1.00	0.99	1.01	0.885	0.00
DT Total Indirect	1.00	0.99	1.01	0.541	-0.01
AF Total Indirect	1.03	0.93	1.13	0.566	0.01
MF Total Indirect	0.98	0.85	1.12	0.723	0.00
DF Total Indirect	0.91	0.78	1.06	0.244	-0.02

NOTE: Associations control for covariate effects. Bolded values indicate significance. OR = Odds Ratio.

Alternative Model: Mediational Models (H2a and H3a)

An alternative hypothesis was proposed in which serial mediation of family strengths and family members' depressive symptoms affect MHC utilization (see Figure 17 – repeated below for convenience). For direct effects (Tables C6-C7 in Appendix C), there was a significant association between mothers' depressive symptoms and mothers' warmth ($b = -0.01, p = .01$) and between mothers' depressive symptoms and adolescents' depressive symptoms ($b = 0.12, p = .00$). Adolescent reports of familism values ($b = 0.37, p = .00$) were directly associated with mothers' warmth, while fathers' familism values were directly associated with time spent with mothers ($b = 1.91, p = .01$). For the adolescents' perceptions of fathers' warmth mediator, there was a direct path from four variables: mothers' depressive symptoms ($b = -0.01, p = .02$); fathers' depressive symptoms ($b = -0.01, p = .01$); adolescents' familism values ($b = 0.47, p = .00$); and fathers' familism values ($b = 0.20, p = .04$).



For the indirect paths (Table C8 in Appendix C), there was a small but significant indirect effect of mothers' depressive symptoms ($b = 0.03, p = .01$) and a marginal effect of fathers' depressive symptoms ($b = 0.02, p = .06$) on adolescent depressive symptoms across all mediated pathways. Overall, there were significant associations between mom and dad depressive symptoms and familism with adolescent depression through parental warmth and time spent with parents, but these effects were generally very small.

Fathers' familism values decreased the odds of MHC utilization by 16% across all pathways (OR = 0.84; β = -0.03; p = .04) (Table 18). Also, time spent with family decreased the odds of MHC utilization by 25% across all pathways (OR = 0.75; β = -0.06; p = .02). Although the effect sizes were very small, these family strengths still had a significant negative impact on mental health care utilization as showcased in H2a-H3a.

Table 18.

Indirect Associations of Parent Depression and Familism with Adolescents' Mental Health

Through all Pathways ($f=246$, $y=492$, $n=1,476$)

	Adolescents' Mental Health Care				Beta
	OR	95% CI	p-value		
<i>Total Indirect Associations through all Pathways</i>					
MDS Total Indirect	1.01	1.01	1.02	0.001	0.06
DDS Total Indirect	1.01	1.00	1.02	0.013	0.04
FT Total Indirect	0.75	0.59	0.96	0.022	-0.06
MF Total Indirect	0.96	0.80	1.15	0.664	-0.01
DF Total Indirect	0.84	0.71	0.99	0.035	-0.03
<i>Statistically Significant Specific Indirect Associations</i>					
MDS -> ADS -> MHC	1.01	1.00	1.01	0.042	0.02
AF -> MW -> ADS -> MHC	0.96	0.93	1.00	0.029	-0.01
psuedo R^2	0.358				

NOTE: Associations control for covariate effects. Bolded values indicate significance. OR = Odds Ratio.

Family Strengths Moderation of Depressive Symptoms and Mental Health Care (MHC) Association (H4)

Mothers' depressive symptoms increased the probability of utilizing MHC when perceived warmth was low, but not when it was high (Figure 21). Mothers' depressive symptoms were associated with MHC utilization more at high levels of familism (p = .006). For example, at high levels of familism, it increased the probability of engaging in MHC when mothers were depressed. Mothers' depressive symptoms were associated with MHC utilization more at lower levels of time spent with family. For fathers' depressive symptoms, they are associated with

MHC utilization more at higher levels of perceived mothers' warmth by adolescents and at lower levels of familism values as reported by mothers. Thus, some aspects of family strengths, specifically adolescents' and mothers' familism values, mothers' warmth, and family time, moderated the relationship between parental depressive symptoms and mental health care utilization. However, this relationship did not hold up for adolescent depressive symptom associations as previously hypothesized in H4.

Figure 21.

Probability Models of Mental Health Care Utilization by Parents' Depressive Symptoms and Family Strengths



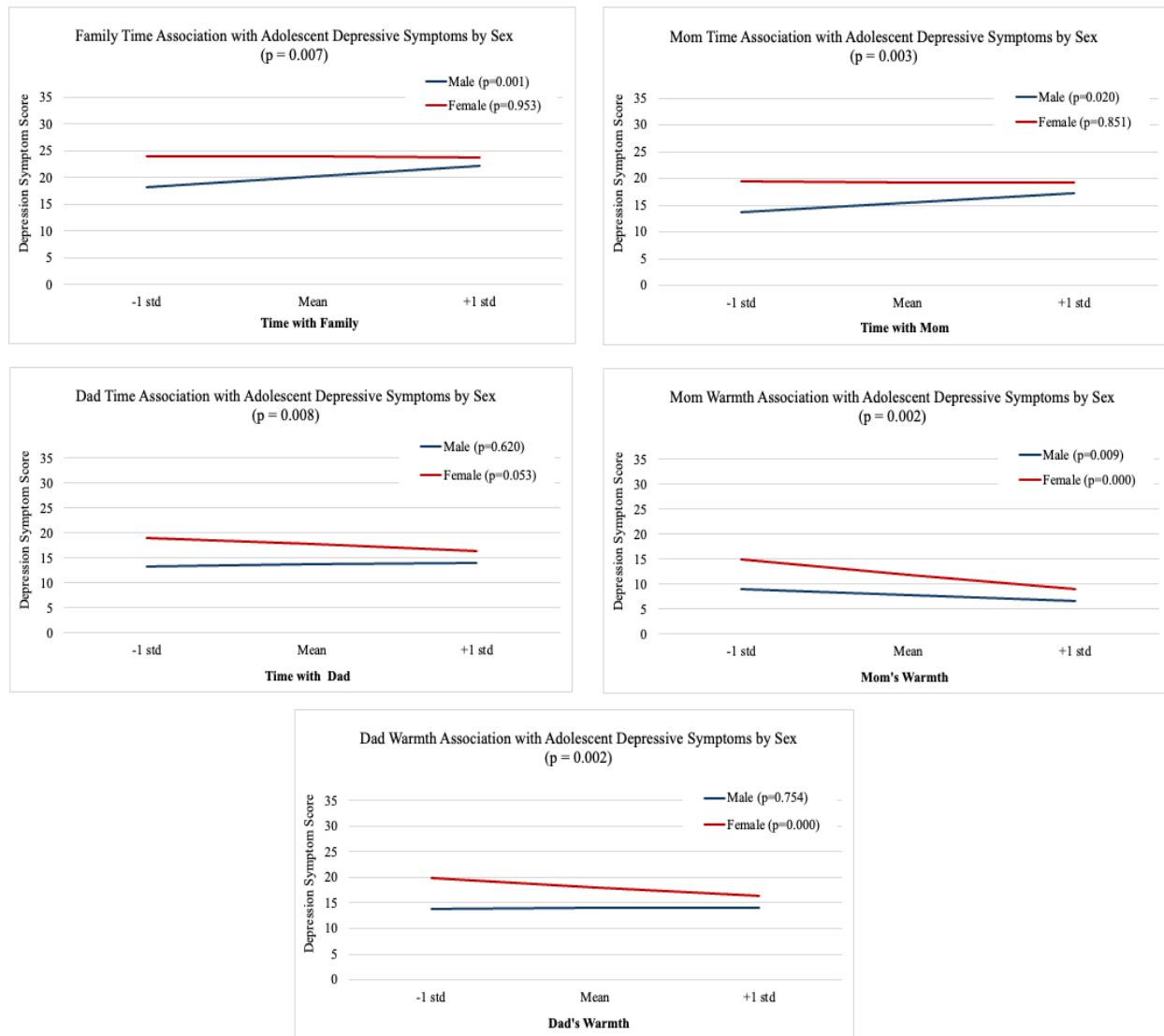
Sex as a Moderator

Sex moderation was evaluated for associations of family strengths with depressive symptoms. Across the graphs in Figure 22, five associations were significantly moderated by

adolescent sex. For adolescent males, more time spent with family was associated with increases in depressive symptoms, but not for adolescent females. The same effect was observed when looking only at time spent with mothers. When it came to time spent with fathers, there was a significant decrease in depressive symptoms for adolescent females, but not for males. A similar effect was found when looking at adolescents' perceptions of fathers' warmth. For all adolescents, higher perceptions of mothers' warmth were associated with decreases in depressive symptoms, but the effect was larger for adolescent females. Additionally, mothers' depressive symptoms increased the likelihood of adolescent males using MHC, but this association was not significant for adolescent females. Overall, sex had a direct impact on these associations and highlights the importance of fathers in adolescent females' lives.

Figure 22.

Adolescent Depressive Symptom Associations with Family Strengths by Sex.



Discussion

The present study examined bidirectional relations among Mexican-origin adolescents and their parents' depressive symptoms, mental health care utilization, and family strengths over time. Overall, our results provided moderate support for all hypotheses. Consistent with the broader literature, depressive symptoms across all family members generally decreased over

time and were strongly intercorrelated (Alegría et al., 2007; Cruz et al., 2021; Cicchetti, 2023). However, mothers' depressive symptoms remained moderately stable from ages 30 to 60, which was unexpected.

When it came to family strengths, the strongest protective factor associated with adolescent depressive symptoms over time were high perceived maternal warmth, followed by more time spent with family. This highlights the importance of mothers' emotional caregiving within the family (Ramos et al., 2022; Bermudez & Mancini, 2013). Additionally, fathers' warmth and time spent with fathers were more impactful for Latina adolescents into early adulthood, underscoring the important role that Latine fathers play in their child's positive development (Wang et al., 2022; Agerup et al., 2015; Thompson & Henrich, 2022).

Unexpectedly, more time spent with the family was associated with higher levels of fathers' depressive symptoms. Additionally, we found this same relationship between family time and depressive symptoms for adolescent males, but not for females. It may be that Latinos feel a strong obligation to the family as the perceived head of the household, which may be associated with familial pressures (Jurkovic et al., 2004; Kuperminc et al., 2013). Additionally, Latino men may self-isolate from external activities or relationships because of experiencing depressive symptoms, which may increase time spent with the family through self-isolation (Valdez et al., 2019; Martínez Pincay & Guarnaccia, 2007).

For mental health care (MHC) utilization, it was confirmed that adolescents who experience more depressive symptoms are more likely to use MHC (Boerema et al., 2016; Cummings, 2014; McLaren et al., 2023). However, family strengths were not related to MHC utilization. There was support for our hypothesis that family members' depressive symptoms would partially mediate the relationships between family support and MHC utilization. As

shown earlier, a one-unit increase in perceived mothers' warmth was indirectly associated with 11% lower odds of utilizing MHC services across all depressive symptom pathways for family members.

Other aspects of family strengths were not significantly associated with trajectories, contrary to prior hypotheses. However, we did see an interaction between mothers' depressive symptoms and mothers' warmth for MHC use. Essentially, mothers' depressive symptoms increased the probability of adolescents' utilizing MHC, but only when mothers' warmth was perceived at low levels. This is in line with prior literature indicating that low maternal warmth can be detrimental to adolescents' mental well-being (Cauce et al., 2002; Reck et al., 2016).

Lastly, our alternative model examining the partial mediation of family strengths on the association of family members' depressive symptoms and subsequent MHC utilization was moderately supported. Through parental warmth and time spent with parents, there were significant associations between parents' depressive symptoms and MHC utilization. However, this was not the case for adolescents' depressive symptoms as previously hypothesized (Ramos et al., 2022).

Depressive Symptoms within Families

The current study found that depressive symptoms across all family members decreased over time. In line with previous research, depressive symptoms were more prevalent among Latine adolescents, but this effect diminished into adulthood (SAMHSA, 2025; Ettman et al., 2026). Previous literature has indicated that Latine adolescents had higher depressive symptoms than their non-Latine peers (Centers for Disease Control & Prevention, 2023). However, the current study found that average depressive symptoms did not meet the clinical cut-off for clinical concern among Latine adolescents. Thus, the current sample may not be experiencing

severe depressive symptoms and may be reporting only mild symptoms that may improve with time (Martínez Pinay & Guarnaccia, 2007; Vargas et al., 2015; Cauce et al., 2002; Olcoñ & Gulbas, 2018). Additionally, we saw that fathers' depressive symptoms remained relatively low compared with mothers' and declined into mid-adulthood, which is in line with previous research (Connell & Goodman, 2002; Agerup et al., 2015). As the focus was on Latine adolescents, it is unclear if these findings are associated with fathers' being less depressed or if this may be related to underreporting due to stigma, masculinity, or some other dynamics that were not covered within the current study (Arciniega et al., 2008; Agerup et al., 2015).

However, mothers' depressive symptoms remained relatively stable. Potential barriers for Latine mothers include a lack of time to address their mental health because they are preoccupied with familial obligations or other stressors (e.g., financial problems, family conflict, immigration-related stressors) (Olcoñ & Gulbas, 2018; Pineros-Leano et al., 2021). Thus, it is less likely that mothers will significantly address their depressive symptoms, as was shown for adolescents and fathers in the study. It seems that mothers' capacity to manage their own mental health comes at a cost when also managing other caregiving tasks (Sánchez et al., 2010). Additionally, for women in midlife, these depressive symptoms may coincide with menopause, which may exacerbate them due to the emergence of physical stressors (e.g., increased irritability, hot flashes, sleep regression, etc.) (Jones et al., 2020).

Regarding depressive symptoms across family members, we found that these associations were highly intercorrelated. For example, as mothers' depressive symptoms increased over time, so did those of adolescents and fathers. Previous literature has highlighted how maternal depressive symptoms are connected to depressive symptoms over time in children and adolescents, which the current study replicates with specifically Mexican-Origin families (Reyes

et al., 2025; Thomas et al., 2019; Griffith et al., 2024). Mothers' own depressive symptoms may impact their capacity for warmth, which may impact the parent-adolescent relationship (Shafer et al., 2017). Additionally, the present study adds to the sparse literature examining the important role that fathers' depressive symptoms play in their adolescents' and partners' mental well-being (Turner et al., 2023). Previous literature has highlighted the importance of both parents' depressive symptoms in shaping adolescents' subsequent well-being, but this study shows that these familial ties are more closely related than previously thought (Eckshtain et al., 2018; Pineros-Leano et al., 2021).

When considering the random cross-lag panel model, only significant auto-regressive associations were observed between depressive symptoms in phases 3 and 4 across all family members. Previous research has indicated that cross-lag panel models are most optimal when the distance between time points is shorter than 1 year (Dormann & Griffin, 2015). Thus, the current study may not have fully captured the cross-lagged impact due to the long lags between time points (P1 to P3 = 5 years; P3 to P4 = 2 years).

When examining differences by sex, Latina adolescents' depressive symptoms were significantly buffered by more time spent with fathers and by higher perceptions of fathers' warmth. Although parental warmth was important for both Latine males and females, it is important to recognize the role that Latine fathers play for Latina adolescents (Agerup et al., 2015; Cabrera & Bradley, 2012). Previous research with Latine samples has indicated that greater father support and involvement were associated with lower depressive symptoms in adolescent daughters, a finding the current study has replicated (Piña-Watson & Castillo, 2015). It may be that Latine fathers see themselves as their daughters' protectors and are thus more likely to use emotional or affectionate strategies with their daughters than with their sons (Perez-

Brena et al., 2012; O’Gara et al., 2022). Thus, it is important to leverage the role that fathers play in Latine adolescent development to prevent these depressive symptoms.

The current study builds on prior literature to show that parental depressive symptoms are not only intercorrelated but also affect Latine adolescents' depressive symptoms into adulthood. In line with family systems theory, Latine families consist of interdependent individuals and a parental subsystem that seeks to maintain equilibrium (Minuchin, 1974). As family members experience individual depressive symptoms, these can spill over into their dyadic relationships with one another (parent-to-parent, parent-to-child), as evidenced in the current study (Erel & Burman, 1995; Young et al., 2021).

Family Strengths and Depressive Symptoms

Overall, parental warmth was the most significant strength in buffering the effects of depressive symptoms among adolescents and family members. Previous studies have long established the importance of parental support and warmth, especially within Latine families (Ramos et al., 2022; Reyes et al., 2025; Simpson et al., 2024; Shafer et al., 2017). Thus, the current study replicates these findings among Mexican-origin families from adolescence through early adulthood.

Strong relationships, especially those with Latina mothers, are a strong cultural value within Latine culture and seem to persist into early adulthood as well (Bermudez & Mancini, 2013). For Latine mothers, traditional gender roles position women as the family pillar who manages the family unit (Castillo et al., 2010). The current study replicates these findings, showing that Latine mothers are perceived as the emotional caretaker within families (Shafer et al., 2017; Castillo et al., 2010; Alvarez-Frank et al., 2026). Additionally, among Latine fathers, greater perceived warmth was associated with fewer depressive symptoms over time, consistent

with prior research (Videon, 2005; O’Gara et al., 2022). Altogether, these findings showcase how Latine families strive to manage external stressors within family subsystems and may mitigate spillover effects from depressive symptoms by utilizing parental warmth (Cox & Paley, 1997; 2003; Young et al., 2021).

When examining associations with parental depressive symptoms, there was a significant association between fathers’ depressive symptoms and adolescents’ perceptions of their fathers’ warmth. Specifically, adolescents’ perceptions of low warmth from fathers were associated with higher depressive symptoms in fathers. This aligns with previous research showing that parents’ depressive symptoms may affect their parenting behaviors and, in turn, be linked to higher adolescent depressive symptoms (Shafer et al., 2017).

When it came to other family strengths, results were mixed for familism values and time spent with the family. Familism values loaded less strongly in the trajectory models, and time spent with family was associated with more depressive symptoms among Latino adolescents. The same pattern was observed for Latino fathers’ depressive symptom trajectories. Previous research has shown that familism values are associated with lower internalizing symptoms (Cahill et al., 2021; Valdivieso-Mora et al., 2016). However, the current study did not find significant results for family members’ reports of familism in models of adolescent depressive symptoms beyond the bivariate correlations. This may be because the impact of familism was absorbed when parental warmth was added to the models.

Previous studies have shown the protective impact of parents’ reports of familism on their own depressive symptoms, a pattern replicated in this study (Stein et al., 2014). Thus, familism may still be an important protective factor for Latine families, but the warmth/support component may be more important for Latine adolescents into early adulthood. Higher familism

values are related to lower levels of depressive symptoms among Latine adolescents, though these associations vary across development and measures of familism (Cahill et al., 2021; Cupito et al., 2016; Stein et al., 2014; Zeiders et al., 2016).

When examining these differences among males in the study, it may be important to consider how familial obligations and expectations may come into play. For Latine youth who embraced more U.S. mainstream cultural practices and values, perceived unfairness regarding familial obligations was higher, particularly among Latine girls compared with boys (Kuperminc et al., 2013; Patel & Stein, 2023). For Latine boys, the indirect association between immigration-related stressors (e.g., deportation or legalization stressors) and depressive symptoms through family conflict was contingent on average to high familism-obligation levels (Wasserman et al., 2024). Essentially, for Latine boys who felt strongly obligated to their families, distress related to their families' immigration status and conflict led to more depressive symptoms (Wasserman et al., 2024; Jurkovic et al., 2004).

For Latine early adolescents transitioning into adulthood, this duty to support, assist, and respect the family continues (Fuligni & Pedersen, 2002). Additionally, this duty is more pronounced among young adults from lower-income families, potentially due to a perceived greater need to contribute to their families' financial well-being (Fuligni & Pedersen, 2002; Yahirun et al., 2015; Sánchez et al., 2010). Research indicates that certain aspects of familism can negatively impact family relationships by promoting putting family members ahead of oneself and by highlighting how generational mental health struggles can affect both parent and child well-being (Calzada et al., 2013). Thus, these broader obligations, which were not captured in the current study, might give us more insight into why Latine individuals, especially males, were reporting more depressive symptoms with higher family time.

When considering the association between time spent with family and adolescent depressive symptoms, an alternative explanation may be more aligned with the self-isolation aspect of depressive symptoms (APA, 2013). Focus groups of Latine adults defined mental health as dependent on the quality and quantity of social relationships/supports and identified isolation as one of the main causes of depression among Latine individuals (Martínez Pincay & Guarnaccia, 2007). As individuals become more depressed, they may be less likely to seek out external relationships or activities and may choose to stay home more, thereby increasing their time spent with family (Valdez et al., 2019; Martínez Pincay & Guarnaccia, 2007).

After accounting for covariates, household income was significantly associated with depressive symptom levels and trajectories for adolescents and fathers over time. In other words, lower household income was linked to higher depressive symptoms for both adolescents and fathers in the sample. Previous research has shown that depressive symptoms can be tied to external stressors such as financial concerns, especially in male populations (Cabassa et al., 2007). To provide context, data collection for this study took place during the 2008 Recession (Perez-Brena et al., 2025; Updegraff et al., 2005). Families in the study experienced changes in family dynamics, developed strategies to manage hardship, and struggled with a sense of hope for their futures (Perez-Brena et al., 2025). Additionally, Latine families were more likely to experience financial hardships due to loss of income and inability to secure jobs after college, and to experience higher depressive symptoms (Kochhar et al., 2011; Perez-Brena et al., 2017). Thus, it is possible that Latino males in the study may have experienced mental distress due to unusually high familial obligations during this time frame (Fuligni & Pedersen, 2002; Perez-Brena et al., 2019).

Mental Health Care Utilization in Latine Adolescents into Adulthood

Despite the larger sample size in a longitudinal study of parent-child triads, effect sizes for MHC utilization were all small, reflecting low reported lifetime use. Generally, Latine populations are less likely to engage in MHC services than their non-Latine counterparts (Delphin-Rittmon, 2022). From a LatCrit perspective, Latine adolescents may be hesitant to seek services due to stigma, perceived lack of urgency, financial barriers, or limited mental health care options (Johnson & Possemato, 2019; Hutler et al., 2022; Cauce et al., 2002; Solorzano & Yosso, 2001).

Family and cultural strengths were found to be important in the broader literature on the relationship between depressive symptoms and mental health care utilization (Engelhard et al., 2022). Thus, the current study examined the role of these familial strengths in mediating or moderating the relationship between depressive symptoms and mental health care utilization among Latine adolescents. In the mediation model, there was a significant association between adolescent depressive symptoms and mental health care utilization. Previous research has indicated that people are generally more inclined to seek professional services if they are unable to resolve their issues themselves (McLaren et al., 2023; Martínez Pinay & Guarnaccia, 2007).

As demonstrated with depressive symptoms, adolescents who reported higher household income and more education among their mothers were more likely to use mental health care services. This aligns with prior literature indicating that individuals are more likely to use services when they have higher income and more education (Chang et al., 2014). Again, this highlights how socioeconomic factors may be a strong driver of decisions to use mental health care services among Latine adolescents into adulthood (Solorzano & Yosso, 2001).

Additionally, time spent with family had a direct effect on mental health care utilization. Specifically, an additional hour of family time increased the odds of using services by 2%

among Latine adolescents. Latine adolescents who report feeling supported by their families are more likely to seek mental health services and report better treatment engagement (Stafford & Draucker, 2020; Cooper et al., 2023). However, examining the indirect effects, a unit increase in mothers' perceived warmth was associated with 11% lower odds of using mental health care services through adolescents' depressive symptoms across all timepoints.

It may be that the current sample found that more time spent with family served as a secure base for seeking mental health care services when depressive symptoms are present (Martínez Pinay & Guarnaccia, 2007). Conversely, mothers are perceived as the family's emotional caretaker, and adolescents who perceived more warmth from mothers had fewer depressive symptoms, which meant that utilization went down as a result (Castillo et al., 2010). Latine adolescents have expressed that they are more willing to seek informal support networks, such as family members, when experiencing depressive symptoms (Cauce et al., 2002). The current sample shows that time spent with family is associated with increased mental health care utilization, but perceptions of mothers' warmth indirectly lower utilization through depressive symptoms. Altogether, this shows how family strengths can provide a secure base for Latine adolescents who utilize mental health care services when facing depressive symptoms.

When examining the moderation model, family strengths played a key role in dampening the association between parent depressive symptoms and mental health care utilization, but not for adolescent depression. As previously stated, parental warmth, especially from mothers, was integral to mitigating the impact of mothers' depressive symptoms on MHC utilization at low levels. Exposure to depressed mothers has been a known avenue for mitigating depressive symptoms from parent to child over time (Tully & Goodman, 2008). From a meta-analysis of 29 studies on the impact of maternal depression on child mental health care

utilization, parents who were also experiencing depressive symptoms were more likely to bring their adolescent for mental health treatment than to seek treatment for themselves (Engelhard et al., 2022).

For instance, the current study found that the presence of mothers' depressive symptoms was associated with adolescent males using more mental health care services, but not with adolescent females. Adolescents have a broad understanding of how depressive symptoms affect their parents and try to overcompensate by taking on additional family obligations to help their parents (Valdez et al., 2019). Additionally, Latine adolescents have indicated that they are more likely to seek external support systems when their parents are experiencing depressive symptoms (Valdez et al., 2019; Wasserman et al., 2021). For adolescent males, they may feel more affected by their mothers' depressive symptoms, since they may not be able to rely on her as their emotional caretaker, whereas Latinas are expected to suppress their sadness for the sake of family harmony (Castillo et al., 2010; Gallegos & Segrin, 2024).

Another important consideration is somatic symptoms of depression. Somatic symptoms include frequent and recurring physical pains, such as headaches, muscle aches, or stomach aches, that have been linked to mental health illnesses like depression or anxiety (American Psychiatric Association, 2013). Within the study, the physical health status of Latine adolescents was significantly related to mental health care utilization through family strengths and family members' depressive symptoms. Latine individuals are more likely to report somatic complaints when experiencing depressive symptoms (Dunlop et al., 2020; Zvolensky et al., 2021). However, studies have reported differences by generation status, language, and sex, with third-generation, female, and Spanish-speaking individuals more likely to report somatic complaints (Der Sarkissian et al., 2022; Dunlop et al., 2020; Romero-Acosta et al., 2014; Leather et al., 2021). As

a result, Latine individuals are more likely to seek services when experiencing somatic symptoms than depressive symptoms (Zvolensky et al., 2021). These somatic symptoms may mask depressive symptoms, which in turn may lead Latine adolescents to seek mental health services due to the severity of the somatic symptoms (Der Sarkissian et al., 2022; Dunlop et al., 2020).

Implications

The primary conclusion from the present study is that the depressive symptoms of one family member may affect other members and can impact Latine families throughout adulthood. Although depressive symptoms seemed to decrease over time, inter-familial depressive symptoms remained strongly associated (Cauce et al., 2002; Olcoń & Gulbas, 2018). Recent research has demonstrated that interventions can benefit from addressing both parental depressive symptoms and enhancing parenting skills, such as parental warmth, to mitigate the intergenerational transmission of depressive symptoms (Goodman, 2026; Goodman & Garber, 2017). Thus, interventions could be designed to target families by providing parenting practices and support for parents, along with treatment for adolescents' and parents' depressive symptoms (Goodman & Garber, 2017; Escobar-Galvez et al., 2023).

Additionally, it is important to consider that therapy may not be the only solution for addressing mental health problems in Latine samples. For instance, mothers played a pivotal role in alleviating depressive symptoms within their family units over time, especially regarding perceptions of warmth and support. Thus, it may be important for family researchers to expand their current mental health resources to culturally include mothers as pivotal players within informal treatment plans (Engelhard et al., 2022). As a result, providing more mental health literacy for Latine families, especially Latina mothers, may be a culturally appropriate avenue

for addressing early depressive symptoms in adolescents (Engelhard et al., 2022). However, it will be important to consider the potential barriers for Latine families due to financial constraints or time commitments, since mothers who are depressed are more likely to terminate or not seek services when perceived barriers to care are higher (Acri et al., 2018; Kazdin et al., 1997). Thus, it will be important to address those potential barriers through flexible service hours, bilingual materials, and telehealth services (Gordon et al., 2010).

In line with theory, the current study found that socioeconomic factors, such as household income and mothers' education, were strongly related to mental health care utilization. From a LatCrit perspective, this underscores how societal barriers to care are difficult to overcome and can detrimentally affect health-seeking behaviors within Latine samples (Solorzano & Yosso, 2001). Additionally, the current study found that Latine families' use of familial strengths, such as parental warmth, was associated with lower adolescent depressive symptoms. Perceptions of mothers as the warm parent were indirectly associated with lower mental health care utilization through lower depressive symptoms. Altogether, these associations show that inter-familial strengths can buffer against depressive symptoms and that families may seek to manage these symptoms within the family before utilizing mental health care services (Cox & Paley, 1997, 2003; Valdez et al., 2019; Martínez Pinay & Guarnaccia, 2007). The current study expands the literature on how Mexican-origin families' inter-familial experiences with depressive symptoms can permeate through families and how they seek to use family strengths, especially through Latine mothers, to bring families back to equilibrium from adolescence into adulthood (Minuchin, 1985; 1974).

Limitations & Future Directions

The current study used a large sample of parents and adolescent triads. However, MHC utilization was low in the sample (6%). As a result, we were unable to examine MHC trajectories and had to pivot to analyzing use across two time points due to the small number of MHC users. Additionally, the current study used a unidimensional item to measure mental health care utilization, which captured only lifetime use at three timepoints for Mexican-origin Latine youth. Thus, conclusions could not be drawn regarding motivations for seeking services, direct barriers to care, and the time between experiencing mental health symptoms and utilizing mental health care (Johnson & Possemato, 2019; Escobar-Galvez et al., 2023). Previous research has found that Latine individuals are less likely than their White peers to endorse talking to someone about their depressive symptoms or to use psychotropic medications (García et al., 2011; Olson et al., 2023). However, the current study did find that individuals who experienced depressive symptoms were more likely to utilize mental health services, which was replicated from prior research (Boerema et al., 2016; Cauce et al., 2002; Cummings, 2014).

Conversely, the current study also found that socioeconomic factors, such as household income and mothers' education, were strongly associated with mental health care utilization than family strengths, which is consistent with prior literature (Martínez Pinay & Guarnaccia, 2007). To build on these limitations and new findings for Mexican-origin families, future research should examine how these structural factors influence mental health care utilization by including additional scales measuring help-seeking and perceived barriers to care, and by conducting focus group interviews with Latine adolescents and adults about their experiences with mental health care utilization (Bernal, 2002; Huber, 2009; Solorzano & Yosso, 2001).

When considering the random cross-lag panel model, there were inconsistencies in the time intervals between phases. The sample had data collected 5 years between P1 and P3, and

then 2 years between P3 and P4. Previous research has indicated that it is ideal to have 1 year or less between time points to best reflect differences across pathways (Dormann & Griffin, 2015). For instance, the random cross-lag panel model did not show any cross-lag effects between family members' depressive symptoms, but this was found within the SEM. Thus, the current study may not have fully captured the cross-lag impact due to the lags between time points being too long, and future research should recreate this study with time points in closer time frames to best capture this effect (Dormann & Griffin, 2015).

One avenue of interest may be to examine intergenerational perceptions of MHC utilization within Latine families and how these perceptions may influence MHC-seeking behaviors when depressive symptoms arise. As it currently stands, it is difficult for Latine populations to engage with services due to immigration-status stressors, distrust of medical services, internalized stigma, language barriers, or other vulnerabilities (Ojeda et al., 2010; Umaña-Taylor & Bámaca, 2004). It would then be important to use alternative research strategies, such as LatCrit, that allow Latine individuals to be the experts on their experiences via testimonios to examine how their families navigate mental health care and mental health crises (Bernal, 2002; Solorzano & Yosso, 2001). From these interviews, researchers can gain insight into how families approach mental health crises and the avenues they use to manage these symptoms, which may not always involve mental health care (Ojeda et al., 2010).

Regarding the current sample, data collection took place between 2002 and 2010 in a Southwestern state and included only Mexican-origin families (Updegraff et al., 2005). As previously stated, there may be cohort effects for adolescents transitioning into adulthood during the 2008 Great Recession, particularly regarding mental health (Perez-Brena et al., 2025). Additionally, the results can generalize only to other Mexican-origin families within similar

geographical regions. Thus, it is important for developmental studies examining Latine families across subgroups or regions to determine whether these results generalize to those contexts. Lastly, it would be important to collect a current sample to see whether these results still hold up almost two decades later.

The current study highlights the importance of fathers' participation in developmental research, especially regarding mental health (Cabrera & Bradley, 2012; Davison et al., 2017; Lindsay et al., 2021; Roberts et al., 2022; Turner et al., 2023). Thus, future research should prioritize the inclusion of fathers in studies to further examine their role, especially within Latine families. However, a study found that 80% of fathers reported never being asked to participate in developmental research study, and many cited personal time commitments (57%) and perceived usefulness of research (56%) as barriers (Davison et al., 2017). Thus, future studies should include strategies that highlight research benefits to families and offer flexible data collection to better recruit fathers (Lindsay et al., 2021; Davison et al., 2017). For Latine fathers, effective methods also include snowball sampling, recruitment at male-focused venues, father-only studies, and employing research staff who share cultural and linguistic backgrounds (Lindsay et al., 2021).

CHAPTER 4 : CONCLUSION

Across the two studies, the main implication is that family strengths are an integral resource for Latine families in alleviating depressive symptoms across the life course. Study 1 showed that early family strengths remained impactful for Latine adults nearly 30 years later. Study 2 showed that concurrent reports of family strengths were associated with decreases in familial depressive symptoms from adolescence into early adulthood for Mexican-origin families.

Above and beyond, maternal warmth and engagement by fathers (i.e., engagement, warmth, and time spent with fathers) were the most impactful family strengths across the studies. Both studies found that maternal warmth was a significant predictor of reduced depressive symptoms into adulthood for Latine individuals. Additionally, fathers played a pivotal role across both studies in alleviating depressive symptoms among Latina adolescents and into adulthood. Both studies underscore the importance of mothers as the emotional caretakers and the important roles that fathers play for Latinas (Cabrera & Bradley, 2012; Davison et al., 2017; Lindsay et al., 2021; Roberts et al., 2022; Turner et al., 2023). From a family systems perspective, the parent subsystem remains influential for Latine individuals beyond adolescence and serves as an integral source of support when facing external stressors, such as depressive symptoms (Cox & Paley, 1997; 2003).

Across the two studies, depressive symptom trajectories were higher in adolescence, declined into early adulthood, and, in Study 1, then rose again in middle adulthood. These findings were consistent with the broader literature and were not limited to Latine samples (Coppola et al., 2024a, 2024b; Cicchetti, 2023; Ettman et al., 2026). In Study 2, the current dissertation builds on the literature to show that parental depressive symptoms are not only

intercorrelated but also influence Latine adolescents' depressive symptoms into adulthood. Additionally, it adds to the sparse literature on the role fathers play in the mental health of their adolescents and partners over time, specifically for depressive symptoms (Turner et al., 2023). From a family systems perspective, both studies underscore that Latine families consist of interdependent individuals who experience depressive symptoms and that these symptoms can spill over within the internal family subsystem (Minuchin, 1974; Erel & Burman, 1995; Young et al., 2021).

However, both studies underscore how depressive symptoms may still be prevalent within Latine samples, but the more concerning outcome revolves around mental health care utilization. Across both studies, Latine adolescents and adults were unlikely to use mental health care services, even when experiencing depressive symptoms (less than 15% in both samples). Findings were consistent in showing that finances, parental education, insurance status, and physical health variables were more strongly related to utilization than family strengths. Previous research has indicated that these are factors that are significant barriers to seeking mental health services (Chang et al., 2014; Escobar-Galvez et al., 2023; Johnson & Possemato, 2019). For Latine families, additional barriers due to immigration status, language, and mental health stigma can also exacerbate an unwillingness to seek treatment (Escobar-Galvez et al., 2023).

Despite these obstacles, there was a significant association between depressive symptoms and mental health care utilization across both studies. This suggests that, depending on individual circumstances, Latine individuals are willing to seek mental health care services when their depressive symptoms are heightened (McLaren et al., 2023).

The current mental health care system in the United States does not prioritize developing programs that address socioeconomic factors but instead funnels financial resources primarily

toward counseling or mental health education services because they are lower cost (Frieden, 2010; Grabbe et al., 2023; Park et al., 2023). Addressing those higher-impact services could include expanding bilingual services, funding more mental health or economic instability resources in higher-concentration Latine census tracts or addressing education gaps for Latine populations compared with their white peers (Escobar-Galvez et al., 2023; Seaton et al., 2022; Martínez Pinay & Guarnaccia, 2007; Cauce et al., 2002; Park et al., 2023). From a LatCrit framework, the current dissertation highlights that there are still mental health disparities regarding mental health care utilization which may point to broader issues with lack of access to Latine communities, lack of culturally insightful resources, or not acknowledging alternative methods of coping through familial or religious connections (Huber, 2009; Escobar-Galvez et al., 2023; Cauce et al., 2002; Park et al., 2023). Thus, policymakers and researchers should be encouraged to move beyond the individual level to address the societal barriers faced by Latine individuals experiencing depressive symptoms.

APPENDIX A.

Survey Information

Study 1 Variables

Table A1.

Parental Warmth Items

Instructions	English
<u>Section 16: Relations with Parents</u> WI: Let's talk about your relationship with your parents. In the next questions, <i>parents</i> means [NAME]. WII: Let's talk about your relationship with your parents. In the next questions, parents means [RESMOM AND/OR RESDAD NAME]. <u>Section 18: Personality & Family</u> WI-II: The next questions ask for your feelings on a broad range of subjects. Please tell me whether you agree or disagree with each of the following statements.	

Item #	Section #	Reverse Coded	Item Text
H1PF1	18		Most of the time, your mother/father is warm and loving toward you.
H1WP10	16	X	How much do you think she/he cares about you?
H1WP9	16		How close do you feel to your [MOTHER/FATHER/ADOPTIVE MOTHER/ADOPTIVE FATHER/STEPMOTHER/STEPFATHER/FOSTER MOTHER/FOSTER FATHER/etc.]?

ITEM VALUES

Section 18:

Strongly disagree	= 1
Disagree	= 2
Neither agree or disagree	= 3
Agree	= 4
Strongly agree	= 5

Section 16:

Not at all	= 1
Very little	= 2
Somewhat	= 3
Quite a bit	= 4
Very much	= 5

Table A2.

Parent Engagement Items

Instructions	English
<u>Section 16: Relations with Parents</u> WI: Let's talk about your relationship with your parents. In the next questions, <i>parents</i> means [NAME]. Which of the things listed on this card have you done with your [MOTHER/ADOPTIVE MOTHER/STEPMOTHER/FOSTER MOTHER/etc.] [FATHER/ADOPTIVE FATHER/STEPFATHER/FOSTER FATHER/etc.] in the past 4 weeks? WII: Let's talk about your relationship with your parents. In the next questions, <i>parents</i> means [RESMOM AND/OR RESDAD NAME]. Which of the things listed on this card have you done with [RESMOM/RESDAD NAME] in the past four weeks?	

Item #	Section #	Item Text
H1WP17A/ H1WP18A	16	Gone shopping
H1WP17B/ H1WP18B	16	Played a sport
H1WP17C/ H1WP18C	16	Gone to a religious service or church-related event
H1WP17D/ H1WP18D	16	Talked about someone you're dating, or a party you went to
H1WP17E/ H1WP18E	16	Gone to a movie, play, museum, concert, or sports event
H1WP17F/ H1WP18F	16	Had a talk about a personal problem you were having
H1WP17G/ H1WP18G	16	Had a serious argument about your behavior

H1WP17H/ H1WP18H	16	Talked about your school work or grades
H1WP17I/ H1WP18I	16	Worked on a project for school
H1WP17J/ H1WP18J	16	Talked about other things you're doing in school
H1WP17K/ H1WP18K	16	None

ITEM VALUES

Section 16:

No = 0
Yes = 1

Table A3.

Family Support Scale

Instructions	English
<u>Section 35: Protective Factors</u> WI: This section asks questions about the support you receive from the people around you. WII (Section 34): This section asks questions about the support you receive from the people around you.	

Item #	Section #	Reverse Coded	Item Text
H1PR5	35		How much do you feel that people in your family understand you?
H1PR6	35	X	How much do you feel that you want to leave home?
H1PR7	35		How much do you feel that you and your family have fun together?
H1PR8	35		How much do you feel that your family pays attention to you?

ITEM VALUES

Section 35:

Not at all = 1
Very little = 2
Somewhat = 3
Quite a bit = 4
Very much = 5

Study 2 Variables

Table A4.

CESD 20-item Scale

Instructions	English
<u>Youth:</u> Phase 1 and 3: I'm going to read a list of feelings people sometimes have. For each one please tell me how often you have felt this way in the <u>past month</u>. Phase 4: The following statements list feelings people sometimes have. For each one, please tell me how often you have felt this way in the last month. <u>Parents:</u> Phase 1: We are interested in learning about your feelings more generally. Following is a list of ways you may have felt or behaved in the <u>past month</u>. Please indicate <u>how often</u> you felt this way during <u>the past month</u>. Phase 3 and 4: The following statements list feelings people sometimes have. For each statement, please let me know how often you have felt that way in the past month.	
Instructions	Spanish
<u>Youth:</u> Phase 1 and 3: <i>Las oraciones siguientes son sentimientos que la gente tiene algunas veces. Para cada una por favor indica qué tan seguido tú te has sentido de esta manera en el <u>mes pasado</u>.</i> Phase 4: <i>Las oraciones siguientes son sentimientos que la gente tiene algunas veces. Para cada una por favor indica qué tan seguido tú te has sentido de esta manera en el mes pasado.</i> <u>Parents:</u> Phase 1: Estamos interesados en saber acerca de sus sentimientos de manera más general. A continuación encontrará una lista de formas en las que usted se puede haber sentido o comportado durante el <u>mes pasado</u>. Por favor indique <u>que tan seguido</u> se ha sentido de esa forma durante el <u>mes pasado</u>. Phase 3 and 4: Las oraciones siguientes son sentimientos que la gente tiene algunas veces. Para cada declaración, por favor hágame saber qué tan seguido se ha sentido de esa manera en el último mes pasado.	

Item #	Reverse Coded	Item Text
CESD 1		During the past month, I was bothered by things that usually don't bother me. <i>Durante el mes pasado, me molestaron cosas que usualmente no me molestan.</i>

CESD 2		During the past month, I did not feel like eating; my appetite was poor. <i>Durante el mes pasado, no me sentí con ganas de comer; tenía poco apetito.</i>
CESD 3		During the past month, I felt that I could not shake off the blues even with help from my family or friends. <i>Durante el mes pasado, sentí que no podía quitarme de encima la tristeza aún con la ayuda de mi familia o amistades.</i>
CESD 4	R	During the past month, I felt that I was just as good as other people. <i>Durante el mes pasado, sentí que yo era tan bueno(a) como cualquier otra persona.</i>
CESD 5		During the past month, I had trouble keeping my mind on what I was doing. <i>Durante el mes pasado, tuve dificultad en mantener mi mente en lo que estaba haciendo.</i>
CESD 6		During the past month, I felt depressed. <i>Durante el mes pasado, me sentí deprimido(a).</i>
CESD 7		During the past month, I felt that everything I did was an effort. <i>Durante el mes pasado, sentí que todo lo que hice fue un esfuerzo.</i>
CESD 8	R	During the past month, I felt hopeful about the future. <i>Durante el mes pasado, me sentí esperanzado(a) sobre el futuro.</i>
CESD 9		During the past month, I thought my life had been a failure. <i>Durante el mes pasado, pensé que mi vida había sido un fracaso.</i>
CESD 10		During the past month, I felt fearful. <i>Durante el mes pasado, me sentí con miedo.</i>
CESD 11		During the past month, my sleep was restless. <i>Durante el mes pasado, no dormí bien.</i>
CESD 12	R	During the past month, I was happy. <i>Durante el mes pasado, estuve contento(a).</i>
CESD 13		During the past month, I talked less than usual. <i>Durante el mes pasado, hablé menos de lo usual.</i>

CESD 14		During the past month, I felt lonely. <i>Durante el mes pasado, me sentí solo(a).</i>
CESD 15		During the past month, people were unfriendly. <i>Durante el mes pasado, la gente no fué amistosa.</i>
CESD 16	R	During the past month, I enjoyed life. <i>Durante el mes pasado, disfruté de la vida.</i>
CESD 17		During the past month, I had crying spells. <i>Durante el mes pasado, pasé ratos llorando.</i>
CESD 18		During the past month, I felt sad. <i>Durante el mes pasado, me sentí triste.</i>
CESD 19		During the past month, I felt that people disliked me. <i>Durante el mes pasado, sentía que no le caía bien a la gente</i>
CESD 20		During the past month, I could not 'get going'. <i>Durante el mes pasado, no tenía ganas de hacer nada.</i>

ITEM VALUES

English Version

Rarely or None of the time = 1
 Some or Little of the time = 2
 Occasionally or a Moderate amount = 3
 Most of the Time = 4

Spanish Version

Raramente o ninguna vez =1
 Algunas o pocas veces =2
 Ocasionalmente o una cantidad moderada =3
 Todo del tiempo =4

Table A5.*MACVS 16-item Familism Subscale*

Instructions	English
<u>Youth:</u> Phase 1 "The next statements are about what people may think or believe. Just enter your opinion about these and remember there are no right or wrong answers. If you aren't sure what a word or sentence means, please ask your interviewer." Phase 3 The next statements are about what people may think or believe. Please indicate your opinion about these and remember there are no right or wrong answers. Please think about the <u>last 12 months</u> when answering these questions. Phase 4 The next statements are about what people may think or believe. Please indicate your opinion about these and remember there are no right or wrong answers. Please think about the <u>last 12 months</u> when answering these questions. <u>Parents:</u> Phase 1 Please indicate how much you agree or disagree with the following statements. Phase 3 This is my last set of questions for you. The next statements are about what people may think or believe. Please tell me how much you agree or disagree with each statement at this time. There are no right or wrong answers. Phase 4 This is my last set of questions for you. The next statements are about what people may think or believe. Please tell me how much you agree or disagree with each statement at this time. There are no right or wrong answers.	
Instructions	Spanish
<u>Youth:</u> Phase 1 <i>El siguiente grupo de oraciones son sobre lo que la gente pueda pensar o creer. Sólo pon tu opinión acerca de estos y recuerda que no hay respuestas correctas o incorrectas. Si no estás seguro sobre lo que significa una palabra o lo que quiere decir una oración, por favor pregúntale a tú entrevistador.</i> Phase 3 <i>Las siguientes declaraciones son sobre lo que la gente pueda pensar o creer. Por favor indica cuál es tu opinión sobre éstas y recuerda que no hay respuestas correctas ni incorrectas. Por favor piensa sobre los <u>últimos 12 meses al contestar estas preguntas.</u></i>	

Phase 4

Las siguientes declaraciones son sobre lo que la gente pueda pensar o creer. Por favor indica cuál es tu opinión sobre éstas y recuerda que no hay respuestas correctas ni incorrectas. Por favor piensa sobre los últimos 12 meses al contestar estas preguntas.

Parents:**Phase 1**

Por favor indique cuánto está de acuerdo o en desacuerdo con las siguientes oraciones.

Phase 3

Este es mi último grupo de preguntas para usted. El siguiente grupo de oraciones son sobre lo que la gente puede pensar o creer. Por favor dígame qué tan de acuerdo o en desacuerdo está usted con las siguientes oraciones en el presente. No hay respuestas correctas o incorrectas.

Phase 4

Este es mi último grupo de preguntas para usted. El siguiente grupo de oraciones son sobre lo que la gente puede pensar o creer. Por favor dígame qué tan de acuerdo o en desacuerdo está usted con las siguientes oraciones en el presente. No hay respuestas correctas o incorrectas.

Subscale	Item Text
Support and Closeness	4. Parents should teach their children that the family always comes first. <i>Los padres deben enseñarle a sus hijos que la familia siempre viene primero.</i>
Obligation	5. Children should be taught that it is their duty to care for their parents when their parents get old. <i>Se les debería enseñar a los niños que es su obligación cuidar a sus padres cuando ellos envejezcan.</i>
Family as referent	6. Children should always do things to make their parents happy. <i>Los niños siempre deberían hacer las cosas que hagan a sus padres felices</i>
Support and Closeness	14. Family provides a sense of security because they will always be there for you. <i>La familia da sensación de confianza porque uno siempre puede contar con ellos.</i>
Obligation	16. If a relative is having a hard time financially, you should help them out if you can. <i>Si un pariente está teniendo dificultades económicas, uno debe ayudarle si puede.</i>
Family as referent	17. When it comes to important decisions, the family should seek advice from close relatives. <i>La familia debería pedir consejos a sus parientes más cercanos cuando se trata de decisiones importantes.</i>
Support	26. It is always important to be united as a family.

and Closeness	<i>Siempre es importante estar unidos como familia.</i>
Obligation	27. A person should share his/her home with relatives if they need a place to stay. <i>Uno tiene que compartir su casa con parientes si ellos necesitan donde quedarse</i>
Support and Closeness	37. It is important to have close relationships with aunts/uncles, grandparents and cousins. <i>Es importante mantener relaciones cercanas con tíos/tías, abuelos(as) y primos(as).</i>
Obligation	38. Older kids should take care of and be role models for their younger brothers and sisters. <i>Los hermanos grandes deberían cuidar y darles el buen ejemplo a los hermanos y hermanas menores.</i>
Family as referent	39. Children should be taught to always be good because they represent the family. <i>Se les debe enseñar a los niños a que siempre sean buenos porque ellos representan a la familia</i>
Support and Closeness	48. Holidays and celebrations are important because the whole family comes together. <i>Los días festivos y las celebraciones son importantes porque se reúne toda la familia.</i>
Obligation	49. Parents should be willing to make great sacrifices to make sure their children have a better life. <i>Los padres deberían estar dispuestos a hacer grandes sacrificios para asegurar que sus hijos tengan una vida mejor.</i>
Family as referent	50. A person should always think about their family when making important decisions. <i>Uno siempre debe considerar a su familia cuando toma decisiones importantes</i>
Support and Closeness	59. It is important for family members to show their love and affection to one another. <i>Es importante que los miembros de la familia muestren su amor y afecto los unos a los otros.</i>
Family as referent	60. It is important to work hard and do your best because your work reflects on the family. <i>Es importante trabajar duro y hacer lo mejor que uno pueda porque el trabajo de uno se refleja en la familia.</i>

ITEM VALUES

English Version

Strongly disagree = 1
Somewhat disagree = 2

Neither agree nor disagree = 3
 Agree = 4
 Strongly agree = 5

Spanish Version

Muy en desacuerdo =1
 Algo en desacuerdo =2
 Ni de acuerdo ni en desacuerdo =3
 Algo de acuerdo =4
 Muy de acuerdo =5

Table A6.

CRPBI 8-item Parental Warmth Subscale

Instructions	English
	Phase 1: Please tell us how often each of these statements is true for you, that is, how often each statement describes your experiences with your mom/dad during the <u>past year</u>. Phase 3 mom: For the next few minutes, I'm going to ask you questions about your relationship with your mom. In answering these questions, please think about the last 12 months. Phase 3 dad: For the next few minutes, I'm going to ask you questions about your relationship with your dad. These are the same questions I asked you about your mom so they will sound familiar. In answering these questions, please think about the last 12 months. Phase 4 mom: For the next few minutes, I'm going to ask you questions about your relationship with your mom. In answering these questions, please think about the last 12 months. Phase 4 dad: For the next few minutes, I'm going to ask you questions about your relationship with your dad. These are the same questions I asked you about your mom so they will sound familiar. In answering these questions, please think about the last 12 months.
Instructions	Spanish
	Phase 1: <i>Por favor dinos que tan seguido cada uno de estos es cierto para ti, o sea, que tan seguido cada una de estas oraciones describe tus experiencias con tu madre/padre durante el <u>año pasado</u>.</i> Phase 3 mom: <i>En los siguientes minutos, te voy a hacer preguntas sobre tu relación con tu mamá. Al contestar estas preguntas, por favor piensa sobre los últimos 12 meses</i> Phase 3 dad: <i>En los siguientes minutos, te voy a hacer preguntas sobre tu relación con tu papá. Éstas son las mismas preguntas que te hice sobre tu mama, así que se te harán familiar. Al contestar estas preguntas, por favor piensa sobre los últimos 12 meses.</i> Phase 4 mom: <i>En los siguientes minutos, te voy a hacer preguntas sobre tu relación con tu mamá. Al contestar estas preguntas, por favor piensa sobre los últimos 12 meses</i>

Phase 4 dad: *En los siguientes minutos, te voy a hacer preguntas sobre tu relación con tu papá. Éstas son las mismas preguntas que te hice sobre tu mamá, así que se te harán familiares. Al contestar estas preguntas, por favor piensa sobre los últimos 12 meses.*

Item #	Item Text
PW1	My mom/dad makes me feel better after talking over my worries with her/him. <i>Mi mamá/papá me hace sentir mejor después de que hablo de mis preocupaciones con ella/el.</i>
PW2	My mom/dad sees my good points more than my faults. <i>Mi mamá/papá se fija más en las cosas buenas de mí que en mis fallas.</i>
PW3	My mom/dad speaks to me in a warm and friendly voice. <i>Mi mamá/papá me habla con voz cálida y amigable.</i>
PW4	My mom/dad understands my problems and worries. <i>Mi mamá/papá comprende mis problemas y mis preocupaciones.</i>
PW5	My mom/dad is able to make me feel better when I am upset. <i>Mi mamá/papá es capaz de hacerme sentir mejor cuando estoy molesto(a).</i>
PW6	My mom/dad cheers me up when I am sad. <i>Mi mamá/papá me da ánimo cuando me siento triste.</i>
PW7	My mom/dad has a good time with me. <i>Mi mamá/papá se la pasa bien conmigo.</i>
PW8	My mom/dad tells or shows me that she/he likes me just the way I am. <i>Mi mamá/papá me dice o demuestra que le gusto tal y como soy.</i>

3

ITEM VALUES

/

English Version

Almost never

= 1

Once in a while	= 2
Sometimes	= 3
A lot of the time	= 4
Almost always	= 5

Spanish Version

Casi nunca	=1
A veces	=2
Algunas veces	=3
Muchas veces	=4
Casi siempre	=5

APPENDIX B.

Study 1: Tables & Figures

Table B1.

Population Estimates for Age, Depression Scale, and Mental Health Care Utilization Over Time

Variable Name	<i>n</i>	<i>mean</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
Age in Years W1	3,228	16.02	0.22	11.40	20.90
Age in Years W2	2,296	16.57	0.21	12.70	21.60
Age in Years W3	2,319	22.43	0.23	18.42	27.70
Age in Years W4	2,356	28.91	0.22	24.40	33.60
Age in Years W5	1,751	37.99	0.22	33.40	42.70
Age in Years W6	1,818	44.47	0.24	39.90	50.10
Depression Scale W1	3,219	0.70	0.03	0	3
Depression Scale W2	2,297	0.72	0.02	0	3
Depression Scale W3	2,318	0.52	0.02	0	3
Depression Scale W4	2,358	0.52	0.02	0	3
Depression Scale W5	1,748	0.58	0.03	0	3
Depression Scale W6	1,765	0.72	0.02	0	3
MHC Utilization W1	3,216	0.13	0.01	0	1
MHC Utilization W2	2,296	0.09	0.01	0	1
MHC Utilization W3	2,317	0.06	0.01	0	1
MHC Utilization W4	2,357	0.09	0.01	0	1
MHC Utilization W5	1,739	0.12	0.01	0	1
MHC Utilization W6	1,771	0.15	0.01	0	1

Table B2.*Population Mean Estimates for Depression Scale and Mental Health Care Utilization Over Time*

Variable Name	<i>W1 mean</i>	<i>W2 mean</i>	<i>W3 mean</i>	<i>W4 mean</i>	<i>W5 mean</i>	<i>W6 mean</i>
<i>Depression Scale</i>						
All Hispanic	0.70	0.72	0.52	0.52	0.58	0.72
Mexican/Chicano	0.71	0.76	0.52	0.51	0.56	0.70
Cuban	0.63	0.55	0.52	0.48	0.64	0.66
Puerto Rican	0.78	0.78	0.58	0.63	0.67	0.87
Central or South America	0.64	0.64	0.52	0.52	0.56	0.67
Other Hispanic	0.69	0.66	0.47	0.44	0.51	0.70
<i>MHC Utilization</i>						
All Hispanic	0.13	0.09	0.06	0.09	0.12	0.15
Mexican/Chicano	0.12	0.09	0.05	0.09	0.10	0.14
Cuban	0.14	0.06	0.10	0.04	0.18	0.19
Puerto Rican	0.17	0.13	0.04	0.10	0.13	0.21
Central or South America	0.08	0.09	0.08	0.10	0.12	0.14
Other Hispanic	0.21	0.10	0.11	0.08	0.19	0.18

Table B3.*Trajectory Estimates for Depressive Symptoms and MHC Utilization*

<i>Depressive Symptoms</i>	b	95% CI		p-value
Age	-0.01	-0.01	0.00	0.001
Age-Squared	0.00	0.00	0.00	0.000
Intercept	0.55	0.52	0.58	0.000
<i>MHC Utilization</i>	OR	95% CI		p-value
Age	1.00	0.99	1.01	0.890
Age-Squared	1.00	1.00	1.00	0.000
Intercept	0.10	0.08	0.12	0.000

Table B4.*Trajectory Estimates for Depressive Symptoms by Ethnicity*

		MHC Utilization at Age 26		
<i>Depressive Symptoms</i>		b	95% CI	p-value
Levels at Age 26		4.08	2.59 6.41	0.000
		MHC Utilization Change Across Age - Slope		
<i>Depressive Symptoms</i>		b	95% CI	p-value
Levels at Age 26		0.99	0.95 1.02	0.477
Changes Across Age		20.12	6.28 64.46	0.000
		MHC Utilization Change Across Age - Quadratic		
<i>Depressive Symptoms</i>		b	95% CI	p-value
Levels at Age 26		1.00	1.00 1.00	0.263
Changes Across Age		0.90	0.82 0.99	0.024

APPENDIX C.

Study 2: Tables & Figures

Table C1.

Bivariate Correlations Among Focal Variables Pooling Across Phases (P1, P3, P4)

Variable Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
1. Mom's Age in Years	1.00																																
2. Dad's Age in Years	0.79	1.00																															
3. Adolescents' Age in Years	0.08	0.11	1.00																														
4. Adolescent Female	0.04	-0.04	0.01	1.00																													
5. Mom's Years of Schooling	0.12	0.01	-0.05	0.08	1.00																												
6. Dad's Years of Schooling	0.16	0.05	-0.06	0.05	0.65	1.00																											
7. Adolescents' Grade	0.21	0.29	0.95	0.03	0.08	0.08	1.00																										
8. Adolescent in School	0.09	0.03	-0.51	0.04	0.26	0.24	.	1.00																									
9. Mom's Born Outside US	-0.17	-0.14	-0.05	-0.10	-0.42	-0.43	-0.04	-0.14	1.00																								
10. Dad's Born Outside US	-0.12	-0.10	-0.02	-0.01	-0.41	-0.41	-0.12	-0.08	0.80	1.00																							
11. Adolescent Generation Status	0.10	0.11	0.03	0.00	0.46	0.36	0.13	0.06	-0.89	-0.89	1.00																						
12. Mom's Years in USA	0.53	0.43	0.08	0.05	0.37	0.28	0.39	0.15	.	-0.45	0.86	1.00																					
13. Dad's Years in USA	0.51	0.49	0.15	0.05	0.20	0.13	0.36	0.13	-0.21	.	0.85	0.90	1.00																				
14. Mom Preferred English	0.19	0.10	0.03	0.07	0.50	0.50	0.19	0.16	-0.86	-0.84	0.85	0.82	0.71	1.00																			
15. Dad Preferred English	0.19	0.11	0.02	0.05	0.50	0.51	0.16	0.15	-0.81	-0.91	0.84	0.77	0.75	0.87	1.00																		
16. Adolescent Preferred English	0.08	0.04	0.06	-0.03	0.24	0.17	0.11	0.08	-0.28	-0.27	0.34	0.38	0.33	0.27	0.29	1.00																	
17. Household Size	-0.37	-0.32	-0.08	-0.07	-0.35	-0.28	-0.22	-0.08	0.18	0.15	-0.19	-0.45	-0.43	-0.21	-0.24	-0.07	1.00																
18. Household Income	0.18	0.09	-0.03	0.15	0.43	0.45	0.13	0.26	-0.36	-0.33	0.45	0.53	0.52	0.48	0.51	0.21	-0.19	1.00															
19. Degree of Poverty	0.09	0.05	-0.04	-0.05	-0.38	-0.31	-0.11	-0.08	0.21	0.22	-0.34	-0.31	-0.23	-0.26	-0.26	-0.18	0.39	-0.39	1.00														
20. Physical Health Status	-0.02	0.08	-0.06	-0.17	0.10	0.16	0.04	0.11	-0.07	-0.04	0.11	-0.01	0.03	0.07	0.06	0.04	0.06	0.10	-0.02	1.00													
21. Health Insurance Status	0.19	0.14	-0.10	0.09	0.30	0.10	0.06	0.28	-0.38	-0.31	0.30	0.30	0.30	0.33	0.34	0.16	-0.14	0.30	-0.08	0.08	1.00												
22. Mom's Depressive Symptoms	-0.12	-0.11	0.04	-0.01	-0.20	-0.16	-0.14	-0.19	0.20	0.07	-0.23	-0.17	-0.14	-0.20	-0.16	-0.06	-0.02	-0.20	0.16	-0.13	-0.12	1.00											
23. Dad's Depressive Symptoms	-0.11	-0.14	-0.01	-0.03	-0.17	-0.17	-0.22	-0.08	0.08	0.06	-0.15	-0.22	-0.17	-0.17	-0.16	-0.16	0.04	-0.23	0.13	-0.17	-0.15	0.24	1.00										
24. Adolescents' Depressive Symptoms	-0.01	-0.06	-0.15	0.13	-0.08	-0.02	-0.12	-0.04	0.09	0.09	-0.04	-0.17	-0.18	-0.11	-0.12	-0.07	0.02	-0.18	0.09	-0.35	-0.09	0.24	0.18	1.00									
25. Mom's Warmth	0.12	0.08	0.07	0.04	0.25	0.11	0.01	0.02	-0.14	-0.13	0.08	0.15	0.13	0.05	0.06	0.00	-0.15	0.13	-0.09	0.23	0.08	-0.16	-0.12	-0.33	1.00								
26. Dad's Warmth	0.11	0.09	-0.05	0.04	0.12	0.11	-0.11	0.05	-0.02	-0.05	0.00	0.08	0.03	0.04	0.03	-0.05	-0.15	0.14	-0.13	0.06	0.07	-0.06	-0.08	-0.21	0.35	1.00							
27. Mom's Familism	-0.07	-0.04	-0.01	0.03	-0.20	-0.20	0.08	-0.08	0.16	0.20	-0.11	-0.13	-0.09	-0.17	-0.14	-0.05	0.10	-0.09	0.15	-0.11	-0.14	0.03	0.04	0.01	0.00	0.10	1.00						
28. Dad's Familism	-0.01	0.07	0.05	-0.03	-0.27	-0.30	-0.01	-0.11	0.31	0.32	-0.18	-0.19	-0.13	-0.30	-0.34	-0.16	0.09	-0.20	0.21	0.00	-0.18	0.03	0.04	-0.01	-0.02	0.00	0.18	1.00					
29. Adolescent's Familism	0.04	-0.01	-0.02	0.00	0.13	0.06	-0.09	0.01	-0.03	-0.12	0.02	0.08	0.04	0.07	0.06	-0.04	-0.04	0.04	0.02	0.13	0.07	-0.05	-0.12	-0.12	0.26	0.29	0.07	0.05	1.00				
30. Time with Family Per Week	0.15	0.11	0.24	0.23	0.14	0.09	0.12	-0.03	-0.01	-0.01	0.11	0.25	0.26	0.09	0.15	0.04	-0.18	0.16	-0.07	0.09	0.05	0.02	-0.07	0.03	0.10	-0.02	-0.03	0.01	0.02	1.00			
31. Time with Mom Per Week	-0.04	-0.08	-0.49	0.24	0.05	0.06	-0.42	0.25	0.01	0.03	-0.02	-0.05	-0.09	-0.02	-0.01	-0.15	-0.01	0.05	-0.02	0.06	0.15	-0.05	-0.03	0.07	0.14	0.15	0.08	0.08	0.07	0.16	1.00		
32. Time with Dad Per Week	-0.06	-0.08	-0.54	-0.01	0.04	0.05	-0.45	0.29	0.04	0.01	-0.02	-0.08	-0.13	0.00	0.00	-0.13	0.01	0.01	-0.04	0.09	0.13	-0.04	0.01	0.06	0.06	0.18	0.06	0.06	0.09	0.05	0.79	1.00	
33. Mental Health Care Use	0.02	0.03	-0.01	0.12	0.05	0.11	0.06	0.02	0.02	-0.03	0.01	0.03	0.06	0.05	0.04	-0.04	0.01	0.22	0.04	0.01	0.02	0.12	0.00	0.12	-0.07	-0.03	0.03	0.03	0.02	0.14	0.02	-0.02	1.00

NOTE: Focal variables are nested within families and thus were unable to determine significance of these coefficients.

Table C2.*Estimates from Random Intercept Cross-Lagged Model: Adolescent & Mom*

	Beta	SE	p-value	95% CI	
DepressionP1 BY					
DepressionP3	0.13	0.09	0.14	-0.04	0.31
Mom DepressionP3	-0.01	0.06	0.84	-0.12	0.10
Mom DepressionP1 BY					
DepressionP3	0.04	0.07	0.56	-0.09	0.17
Mom DepressionP3	0.14	0.09	0.11	-0.03	0.31
DepressionP3 BY					
DepressionP4	0.29	0.09	0.00	0.11	0.48
Mom DepressionP4	-0.02	0.07	0.75	-0.16	0.11
Mom DepressionP3 BY					
DepressionP4	-0.08	0.07	0.24	-0.21	0.05
Mom DepressionP4	0.25	0.09	0.00	0.08	0.43
Covariances					
DP1 x MDP1	0.09	0.08	0.24	-0.06	0.24
DP3 x MDP3	-0.02	0.08	0.83	-0.18	0.15
DP4 x MDP4	-0.05	0.07	0.50	-0.18	0.09
Youth x Mom					
Intercepts	0.68	0.17	0.00	0.36	1.00

NOTE: Beta = Standardized Coefficient. SE = Standard Error. CI = Confidence Interval. CLP analysis was nested within family ID. Paths were run unconstrained. Bolded values indicate significance at <.05. Age was added as a covariate but showed insignificant results.

Table C3.*Estimates from Random Intercept Cross-Lagged Model: Adolescent & Dad*

	Beta	SE	p-value	95% CI	
DepressionP1 BY					
DepressionP3	0.15	0.10	0.12	-0.04	0.35
Dad DepressionP3	0.08	0.07	0.24	-0.06	0.22
Dad DepressionP1 BY					
DepressionP3	0.09	0.06	0.15	-0.03	0.22
Dad DepressionP3	0.12	0.09	0.19	-0.06	0.30
DepressionP3 BY					
DepressionP4	0.30	0.10	0.00	0.10	0.51
Dad DepressionP4	-0.04	0.07	0.53	-0.18	0.09
Dad DepressionP3 BY					
DepressionP4	0.05	0.09	0.58	-0.13	0.23
Dad DepressionP4	0.25	0.11	0.03	0.03	0.48
Covariances					
DP1 x DDP1	0.16	0.08	0.04	0.01	0.32
DP3 x DDP3	0.11	0.10	0.26	-0.09	0.31
DP4 x DDP4	0.08	0.10	0.41	-0.11	0.27
Youth x Dad					
Intercepts	0.22	0.22	0.32	-0.21	0.64

NOTE: Beta = Standardized Coefficient. SE = Standard Error. CI = Confidence Interval. CLP analysis was nested within family ID. Paths were run unconstrained. Bolded values indicate significance at <.05. Age was added as a covariate but showed insignificant results.

Table C4.*Estimates from Random Intercept Cross-Lagged Model: Mom & Dad*

	Beta	SE	p-value	95% CI	
Mom DepressionP1 BY					
Mom DepressionP3	0.09	0.08	0.30	-0.08	0.25
Dad DepressionP3	0.19	0.12	0.11	-0.04	0.43
Dad DepressionP1 BY					
Mom DepressionP3	0.01	0.08	0.86	-0.15	0.18
Dad DepressionP3	0.09	0.10	0.39	-0.11	0.29
Mom DepressionP3 BY					
Mom DepressionP4	0.24	0.08	0.00	0.09	0.40
Dad DepressionP4	-0.14	0.09	0.13	-0.32	0.04
Dad DepressionP3 BY					
Mom DepressionP4	-0.08	0.08	0.36	-0.24	0.09
Dad DepressionP4	0.29	0.12	0.02	0.05	0.52
Covariances					
MDP1 x DDP1	0.27	0.12	0.03	0.03	0.52
MDP3 x DDP3	0.00	0.14	0.99	-0.27	0.27
MDP4 x DDP4	0.06	0.14	0.66	-0.21	0.33
Mom x Dad					
Intercepts	0.40	0.18	0.03	0.05	0.75

NOTE: Beta = Standardized Coefficient. SE = Standard Error. CI = Confidence Interval. CLP analysis was nested within family ID. Paths were run unconstrained. Bolded values indicate significance at <.05. Age was added as a covariate but showed insignificant results.

Table C5.

Depression Symptoms Trajectory Mixed-Effects and Marginal Model Estimates

	Depressive Symptoms Mixed-Effect				Depressive Symptoms Marginal				
	b	95% CI		p-value	b	95% CI		p-value	Beta
<i>Adolescents (y=492, o=1,127)</i>									
<u>Fixed Effects</u>									
Intercept (age 12)	17.55	16.46	18.63	0.000	17.23	16.12	18.35	0.000	
Age Slope	-0.47	-0.62	-0.32	0.000	-0.43	-0.60	-0.27	0.000	-0.16
<u>Random Effects</u>									
Intercept	29.92	21.50	41.64						
Slope	0.12	0.02	0.61						
Residual	57.67	49.06	67.78						
<i>Moms (m=488, o=1,170)</i>									
<u>Fixed Effects</u>									
Intercept (age 30)	16.76	14.56	18.96	0.000	17.84	15.37	20.31	0.000	
Age Slope	-0.11	-0.28	0.06	0.205	-0.21	-0.39	-0.03	0.026	-0.11
<u>Random Effects</u>									
Intercept	40.36	23.89	68.19						
Slope	0.11	0.04	0.33						
Residual	49.47	39.81	61.47						
<i>Dads</i>									
<u>Fixed Effects (m=488, o=1,066)</u>									
Intercept (age 30)	14.54	12.46	16.62	0.000	15.10	12.78	17.43	0.000	
Age Slope	-0.15	-0.28	-0.01	0.036	-0.19	-0.34	-0.04	0.012	-0.14
<u>Random Effects</u>									
Intercept	20.71	9.56	44.86						
Slope	0.06	0.02	0.21						
Residual	43.64	32.73	58.19						

NOTE: Bolded values indicate significance.

Table C6.

Direct Pathways to Mediators (f=246, y=492, o=1,476)

	Mom's Warmth				Dad's Warmth				Family Time						
	b	95% CI	p-value	Beta	b	95% CI	p-value	Beta	b	95% CI	p-value	Beta			
<i>Family Strengths</i>															
Mom's Depressive Symptoms (0-52)	-0.01	-0.02	0.00	0.007	-0.11	-0.01	-0.02	0.00	0.024	-0.10	-0.01	-0.14	0.13	0.900	-0.01
Dad's Depressive Symptoms (0-52)	-0.01	-0.01	0.00	0.233	-0.05	-0.01	-0.02	0.00	0.012	-0.10	0.08	-0.10	0.26	0.382	0.04
Adolescent's Familism (1-5)	0.37	0.24	0.49	0.000	0.23	0.47	0.33	0.60	0.000	0.26	0.95	-1.40	3.29	0.429	0.03
Mom's Familism (2.7-5)	-0.16	-0.32	0.01	0.067	-0.08	0.10	-0.08	0.27	0.273	0.04	-1.85	-5.50	1.81	0.322	-0.04
Dad's Familism (2.8-5)	0.09	-0.08	0.25	0.308	0.04	0.20	0.01	0.39	0.043	0.09	0.00	-3.83	3.83	0.999	0.00
<i>Covariates</i>															
Adolescent Age (years)	0.01	-0.01	0.03	0.318	0.04	-0.03	-0.05	-0.01	0.012	-0.11	0.43	-0.09	0.94	0.104	0.08
Mom Age (years)	0.01	-0.01	0.02	0.250	0.06	0.02	0.00	0.03	0.074	0.09	0.19	-0.13	0.50	0.241	0.06
Adolescent Female	0.09	-0.02	0.21	0.115	0.06	0.05	-0.09	0.20	0.476	0.03	9.23	6.51	11.96	0.000	0.25
English Interview	0.05	-0.15	0.24	0.641	0.02	-0.05	-0.29	0.18	0.646	-0.02	-1.14	-5.56	3.27	0.612	-0.02
Adolescent Years in US (0-21)	0.00	-0.02	0.02	0.968	0.00	0.00	-0.03	0.03	0.922	-0.01	0.16	-0.24	0.56	0.440	0.04
Mom Not US Born	0.06	-0.11	0.22	0.504	0.03	0.21	-0.01	0.43	0.063	0.10	-3.70	-7.49	0.08	0.055	-0.09
HH Income (\$1,000)	0.00	0.00	0.00	0.171	0.04	0.00	0.00	0.00	0.012	0.11	0.03	0.00	0.06	0.067	0.08
HH Size (4-15)	0.01	-0.03	0.04	0.818	0.01	-0.01	-0.07	0.05	0.769	-0.02	-0.23	-1.31	0.84	0.669	-0.02
Mom Education (years)	0.01	-0.02	0.03	0.598	0.03	0.01	-0.01	0.04	0.388	0.05	0.10	-0.33	0.52	0.663	0.02
Health Insurance	0.04	-0.14	0.21	0.698	0.02	0.10	-0.11	0.30	0.367	0.04	-3.88	-7.79	0.04	0.053	-0.09
Adolescent Health (1-5)	0.15	0.06	0.23	0.000	0.17	0.03	-0.07	0.13	0.522	0.03	2.14	0.55	3.73	0.008	0.11
R ²	0.154				0.158				0.112						

NOTE: Bolded values indicate significance.

Table C7.

Direct Pathways to Mediators (f=246, y=492, o=1,476)

	Mom Time				Dad Time				Adolescents' Depressive Symptoms						
	b	95% CI	p-value	Beta	b	95% CI	p-value	Beta	b	95% CI	p-value	Beta			
Family Strengths															
Mom's Depressive Symptoms (0-52)	-0.04	-0.10	0.01	0.129	-0.05	-0.04	-0.09	0.01	0.147	-0.05	0.12	0.06	0.18	0.000	0.13
Dad's Depressive Symptoms (0-52)	-0.03	-0.10	0.04	0.354	-0.03	-0.02	-0.09	0.05	0.561	-0.02	0.05	-0.02	0.12	0.145	0.05
Adolescent's Familism (1-5)	0.63	-0.45	1.71	0.250	0.04	0.76	-0.25	1.78	0.141	0.05	-0.15	-1.30	1.00	0.801	-0.01
Mom's Familism (2.7-5)	0.93	-0.60	2.47	0.233	0.04	0.97	-0.54	2.49	0.208	0.05	-0.58	-2.05	0.89	0.441	-0.02
Dad's Familism (2.8-5)	1.91	0.47	3.35	0.009	0.09	1.09	-0.06	2.25	0.063	0.06	-1.39	-2.96	0.19	0.085	-0.06
Covariates															
Adolescent Age (years)	-1.11	-1.27	-0.95	0.000	-0.43	-1.04	-1.18	-0.89	0.000	-0.47	-0.34	-0.53	-0.14	0.001	-0.12
Mom Age (years)	-0.18	-0.30	-0.05	0.006	-0.11	-0.19	-0.30	-0.09	0.000	-0.14	-0.06	-0.19	0.08	0.429	-0.03
Adolescent Female	4.59	3.47	5.70	0.000	0.25	0.16	-0.84	1.16	0.749	0.01	1.66	0.39	2.92	0.011	0.09
English Interview	-3.47	-5.53	-1.41	0.001	-0.14	-2.78	-4.79	-0.77	0.007	-0.13	-1.16	-2.89	0.57	0.188	-0.05
Adolescent Years in US (0-21)	0.01	-0.14	0.16	0.896	0.01	0.04	-0.10	0.18	0.558	0.02	-0.03	-0.18	0.13	0.747	-0.01
Mom Not US Born	-1.19	-2.79	0.41	0.145	-0.06	-0.91	-2.29	0.46	0.194	-0.05	-0.90	-2.51	0.70	0.270	-0.04
HH Income (\$1,000)	0.01	-0.01	0.02	0.294	0.03	0.00	-0.01	0.01	0.992	0.00	-0.01	-0.03	0.00	0.110	-0.06
HH Size (4-15)	-0.20	-0.60	0.19	0.319	-0.04	-0.08	-0.42	0.25	0.629	-0.02	0.06	-0.27	0.39	0.733	0.01
Mom Education (years)	-0.08	-0.27	0.12	0.423	-0.03	0.01	-0.16	0.18	0.906	0.01	0.06	-0.14	0.25	0.550	0.02
Health Insurance	1.18	-0.56	2.93	0.185	0.06	0.89	-0.62	2.40	0.246	0.05	-1.43	-3.32	0.45	0.136	-0.06
Adolescent Health (1-5)	0.71	-0.09	1.51	0.080	0.07	0.44	-0.22	1.09	0.196	0.05	-2.34	-3.15	-1.53	0.000	-0.23
R ²	0.350				0.334				0.249						

NOTE: Bolded values indicate significance.

Table C8.

Indirect Associations of Parent Depression and Familism with Adolescent Depression Through Time Spent and Parent Warmth (f=246, y=492, o=1,476)

	Adolescents' Depressive Symptoms				
	b	95% CI	p-value	Beta	
<i>Indirect through Mom's Warmth</i>					
MDS -> MW -> ADS	0.02	0.00	0.04	0.023	0.02
DDS -> MW -> ADS	0.01	-0.01	0.03	0.243	0.01
AF -> MW -> ADS	-0.94	-1.38	-0.50	0.000	-0.05
MF -> MW -> ADS	0.40	-0.05	0.86	0.084	0.02
DF -> MW -> ADS	-0.22	-0.65	0.21	0.319	-0.01
<i>Indirect through Dad's Warmth</i>					
MDS -> DW -> ADS	0.01	0.00	0.02	0.159	0.01
DDS -> DW -> ADS	0.01	0.00	0.02	0.126	0.01
AF -> DW -> ADS	-0.36	-0.74	0.02	0.062	-0.02
MF -> DW -> ADS	-0.08	-0.22	0.07	0.317	0.00
DF -> DW -> ADS	-0.16	-0.38	0.07	0.179	-0.01
<i>Indirect through Family Time</i>					
MDS -> FT -> ADS	0.00	-0.01	0.01	0.899	0.00
DDS -> FT -> ADS	0.00	-0.01	0.01	0.413	0.00
AF -> FT -> ADS	0.04	-0.07	0.15	0.453	0.00
MF -> FT -> ADS	0.04	-0.09	0.17	0.346	0.00
DF -> FT -> ADS	0.00	-0.16	0.16	0.999	0.00
<i>Indirect through Mom Time</i>					
MDS -> MT -> ADS	0.00	-0.01	0.00	0.517	0.00
DDS -> MT -> ADS	0.00	-0.01	0.00	0.542	0.00
AF -> MT -> ADS	0.03	-0.06	0.12	0.548	0.00
MF -> MT -> ADS	-0.08	-0.24	0.09	0.534	0.00
DF -> MT -> ADS	0.08	-0.15	0.32	0.485	0.00
<i>Indirect through Dad Time</i>					
MDS -> DT -> ADS	0.00	0.00	0.01	0.789	0.00
DDS -> DT -> ADS	0.00	0.00	0.00	0.803	0.00
AF -> DT -> ADS	-0.01	-0.12	0.09	0.788	0.00
MF -> DT -> ADS	-0.02	-0.15	0.11	0.782	0.00
DF -> DT -> ADS	-0.02	-0.17	0.13	0.787	0.00
<i>Total Indirect Associations Through All Pathways</i>					
MDS -> -> ADS	0.03	0.01	0.05	0.009	0.03
DDS -> -> ADS	0.02	0.00	0.05	0.060	0.02
AF -> -> ADS	-1.25	-1.81	-0.69	0.000	-0.07
MF -> -> ADS	0.27	-0.28	0.82	0.331	0.01
DF -> -> ADS	-0.31	-0.87	0.25	0.281	-0.01

NOTE: Associations control for covariate effects. Bolded values indicate significance.

Table C9.*Adolescent Mental Health Care Associations with Family Strengths Trajectories, Family**Members' Depression Trajectories, and Covariates (f=246, y=492)*

	Adolescents' Mental Health Care				
	OR	95% CI		p-value	Beta
<i>Family Depressive Symptoms</i>					
<u>Levels at age 12/30 (intercepts)</u>					
Adolescents' Depressive Symptoms (0-53)	1.21	0.87	1.68	0.265	0.26
Mom's Depressive Symptoms (0-52)	1.37	0.95	1.99	0.093	0.52
Dad's Depressive Symptoms (0-52)	1.32	0.51	3.45	0.565	0.28
<u>Change Over Time (slopes)</u>					
Adolescents' Depressive Symptoms	7.41	0.00	#	0.667	0.08
Mom's Depressive Symptoms	0.00	0.00	6.11	0.139	-0.32
Dad's Depressive Symptoms	0.00	0.00	#	0.388	-0.32
<i>Family Strengths</i>					
<u>Levels at age 12/30 (intercepts)</u>					
Mom's Warmth (1-5)	2.96	0.11	78.65	0.517	0.14
Dad's Warmth (1-5)	1.69	0.16	17.51	0.660	0.08
Family Time (16-117 per week)	1.10	0.20	6.03	0.914	0.02
Mom Time (0-62 per week)	0.98	0.68	1.41	0.896	-0.03
Dad Time (0-41 per week)	0.98	0.66	1.46	0.938	-0.01
Adolescent's Familism (1-5)	12.71	0.08	#	0.327	0.16
Mom's Familism (2.7-5)	3.97	0.15	105.74	0.410	0.10
Dad's Familism (2.8-5)	1.56	0.06	38.40	0.785	0.05
<u>Change Over Time (slopes)</u>					
Mom's Warmth	0.00	0.00	89.75	0.093	-0.26
Dad's Warmth	0.00	0.00	#	0.533	-0.08
Family Time	3.12	0.57	17.12	0.190	0.33
<i>Covariates</i>					
Adolescent Age (years)	0.91	0.56	1.48	0.707	-0.06
Mom Age (years)	1.04	0.91	1.18	0.601	0.06
Adolescent Female	1.59	0.46	5.47	0.466	0.08
English Interview	0.13	0.01	1.45	0.097	-0.28
Adolescent Years in US (0-21)	1.10	0.92	1.33	0.296	0.15
Mom Not US Born	1.56	0.30	8.17	0.598	0.07
HH Income (\$1,000)	1.16	1.00	1.34	0.052	0.24
HH Size (4-15)	1.05	0.73	1.52	0.779	0.03
Mom Education (years)	1.11	0.94	1.31	0.199	0.15
Health Insurance	1.10	0.24	5.01	0.905	0.02
Adolescent Health (1-5)	2.15	1.27	3.62	0.004	0.26
psuedo R ²	0.563				

NOTE: Slope effects for all familism variables, time with mom, and time with dad were omitted due to no inter-individual variance. Bolded values indicate significance. # = an extremely large OR (> 2,000), likely due to small cell sizes. OR = Odds Ratio.

APPENDIX D.

Cited Tables with Covariates

Table D1.

Family Members' Depression Associations with Family Strengths and Covariates (f=246, y=492, o=1,476)

	Adolescents' Depressive Symptoms					Mom's Depressive Symptoms					Dad's Depressive Symptoms				
	b	95% CI	p-value	Beta		b	95% CI	p-value	Beta		b	95% CI	p-value	Beta	
Family Strengths															
Mom's Warmth (1-5)	-2.73	-3.65	-1.80	0.000	-0.22	-1.24	-2.58	0.10	0.070	-0.09	-0.44	-1.72	0.83	0.496	-0.04
Dad's Warmth (1-5)	-0.94	-1.74	-0.14	0.021	-0.09	-1.00	-2.05	0.05	0.062	-0.09	-1.06	-2.00	-0.11	0.029	-0.11
Family Time (16-117 per week)	0.05	0.01	0.08	0.024	0.09	0.01	-0.04	0.05	0.791	0.01	0.02	-0.03	0.06	0.476	0.03
Mom Time (0-62 per week)	0.03	-0.09	0.15	0.607	0.03	-0.05	-0.19	0.10	0.544	-0.04	-0.04	-0.21	0.13	0.638	-0.04
Dad Time (0-41 per week)	-0.03	-0.16	0.10	0.624	-0.03	-0.05	-0.21	0.12	0.581	-0.03	-0.01	-0.22	0.20	0.948	-0.01
Adolescent's Familism (1-5)	-0.03	-1.24	1.18	0.963	0.00	1.04	-0.33	2.41	0.136	0.05	-0.46	-1.79	0.87	0.498	-0.03
Mom's Familism (2.7-5)	-0.54	-2.09	1.02	0.497	-0.02	-0.21	-3.13	2.70	0.886	-0.01	0.66	-1.84	3.16	0.606	0.03
Dad's Familism (2.8-5)	-1.46	-3.12	0.20	0.085	-0.06	-0.91	-3.39	1.57	0.470	-0.04	0.50	-2.12	3.12	0.708	0.02
Covariates															
Adolescent Age (years)	-0.34	-0.55	-0.14	0.001	-0.12	0.11	-0.16	0.37	0.430	0.04	-0.06	-0.30	0.18	0.621	-0.02
Mom Age (years)	-0.09	-0.23	0.05	0.197	-0.05	-0.23	-0.46	0.00	0.048	-0.12					
Dad Age (years)											-0.17	-0.34	0.00	0.054	-0.12
Adolescent Female	1.59	0.29	2.88	0.016	0.08	-0.52	-2.33	1.28	0.570	-0.03	-0.75	-2.38	0.88	0.368	-0.04
English Interview	-1.21	-2.95	0.53	0.172	-0.05										
Adolescent Years in US (0-21)	-0.02	-0.17	0.13	0.794	-0.01										
Mom Not US Born	-0.61	-2.30	1.07	0.476	-0.03	2.59	-0.27	5.44	0.076	0.11					
Dad Not US Born											0.42	-2.07	2.92	0.739	0.02
HH Income (\$1,000)	-0.02	-0.03	0.00	0.042	-0.08	-0.02	-0.04	0.01	0.160	-0.08	-0.04	-0.06	-0.02	0.000	-0.20
HH Size (4-15)	0.01	-0.34	0.35	0.975	0.00	-0.27	-1.09	0.55	0.519	-0.04	-0.26	-0.90	0.39	0.440	-0.05
Mom Education (years)	0.04	-0.16	0.24	0.700	0.02	-0.22	-0.58	0.15	0.247	-0.08					
Dad Education (years)											0.18	-0.10	0.47	0.208	0.09
Health Insurance	-1.44	-3.40	0.51	0.149	-0.06	0.72	-1.63	3.07	0.549	0.03	-0.64	-2.56	1.28	0.513	-0.03
Adolescent Health (1-5)	-2.60	-3.46	-1.75	0.000	-0.25	-1.59	-2.58	-0.61	0.002	-0.14	-1.11	-1.92	-0.30	0.007	-0.12
R ²	0.237					0.122					0.112				

NOTE: Bolded values indicate significance.

Table D2.

Family Members' Depression Trajectory Levels Associations with Family Strengths and

Covariates (f=246, y=492)

	Adolescents' Depressive Symptom Intercept					Mom's Depressive Symptom Intercept					Dad's Depressive Symptom Intercept				
	b	95% CI	p-value	Beta		b	95% CI	p-value	Beta		b	95% CI	p-value	Beta	
<i>Family Strengths</i>															
<u>Levels at age 12/30 (intercepts)</u>															
Mom's Warmth (1-5)	-2.70	-3.85	-1.55	0.000	-0.25	-1.50	-3.08	0.08	0.063	-0.12	-0.38	-1.36	0.59	0.442	-0.05
Dad's Warmth (1-5)	-0.89	-1.85	0.07	0.069	-0.09	-1.77	-3.10	-0.44	0.009	-0.16	-1.03	-1.80	-0.25	0.009	-0.15
Family Time (16-117 per week)	0.16	-0.36	0.68	0.550	0.03	-0.21	-0.85	0.43	0.522	-0.03	-0.09	-0.52	0.34	0.680	-0.02
Mom Time (0-62 per week)	0.04	-0.13	0.21	0.646	0.03	-0.01	-0.25	0.23	0.934	-0.01	-0.05	-0.21	0.11	0.534	-0.06
Dad Time (0-41 per week)	-0.03	-0.23	0.18	0.788	-0.02	-0.07	-0.37	0.22	0.626	-0.04	0.06	-0.16	0.28	0.607	0.05
Adolescent's Familism (1-5)	0.00	-2.00	1.99	0.998	0.00	0.55	-1.91	3.01	0.661	0.02	-0.83	-2.63	0.97	0.366	-0.05
Mom's Familism (2.7-5)	-0.55	-2.18	1.08	0.511	-0.03	0.36	-2.70	3.42	0.820	0.02	0.31	-1.54	2.17	0.741	0.02
Dad's Familism (2.8-5)	-0.90	-1.97	0.18	0.101	-0.07	-0.55	-2.35	1.25	0.548	-0.04	-0.17	-1.38	1.03	0.780	-0.02
<i>Covariates</i>															
Adolescent Age (years)	0.19	0.02	0.36	0.033	0.09	0.10	-0.10	0.29	0.332	0.04	-0.05	-0.16	0.06	0.379	-0.03
Mom Age (years)	-0.03	-0.10	0.04	0.349	-0.04	-0.05	-0.17	0.07	0.385	-0.06					
Dad Age (years)											0.01	-0.04	0.06	0.671	0.02
Adolescent Female	0.78	0.08	1.49	0.030	0.10	-0.28	-1.21	0.65	0.549	-0.03	-0.30	-0.89	0.28	0.311	-0.06
English Interview	-0.21	-1.03	0.61	0.614	-0.02	0.81	-0.46	2.07	0.210	0.07	-0.41	-1.24	0.41	0.324	-0.06
Adolescent Years in US (0-21)	-0.04	-0.11	0.04	0.326	-0.04	0.01	-0.12	0.14	0.891	0.01	-0.03	-0.10	0.04	0.416	-0.05
Mom Not US Born	-0.27	-1.14	0.60	0.547	-0.03	1.40	-0.14	2.93	0.074	0.14					
Dad Not US Born											0.31	-0.56	1.19	0.485	0.05
HH Income (\$1,000)	-0.01	-0.02	0.00	0.126	-0.08	-0.01	-0.02	0.00	0.275	-0.06	-0.01	-0.02	0.00	0.092	-0.15
HH Size (4-15)	0.02	-0.15	0.18	0.840	0.01	-0.21	-0.57	0.16	0.275	-0.07	-0.14	-0.32	0.04	0.135	-0.08
Mom Education (years)	0.02	-0.08	0.12	0.720	0.02	-0.12	-0.30	0.05	0.162	-0.10					
Dad Education (years)											0.03	-0.06	0.13	0.466	0.06
Health Insurance	-0.62	-1.58	0.34	0.205	-0.07	0.51	-0.72	1.73	0.418	0.05	-0.24	-0.96	0.48	0.516	-0.04
Adolescent Health (1-5)	-1.23	-1.67	-0.79	0.000	-0.30	-0.76	-1.25	-0.26	0.003	-0.16	-0.40	-0.71	-0.10	0.008	-0.14
R ²	0.295					0.163					0.134				

NOTE: Slope effects for all familism variables, time with mom, and time with dad were omitted due to no inter-individual variance. Bolded values indicate significance.

Table D3.

Family Members' Depression Trajectory Changes Associations with Family Strengths and

Covariates (f=246, y=492)

	Adolescents' Depressive Symptom Slope					Mom's Depressive Symptom Slope					Dad's Depressive Symptom Slope				
	b	95% CI	p-value	Beta		b	95% CI	p-value	Beta		b	95% CI	p-value	Beta	
<i>Family Strengths</i>															
<u>Levels at age 12/30 (intercepts)</u>															
Mom's Warmth (1-5)	-0.04	-0.07	0.00	0.048	-0.12	-0.06	-0.11	-0.01	0.032	-0.13	-0.04	-0.08	0.01	0.128	-0.10
Dad's Warmth (1-5)	0.00	-0.04	0.03	0.825	-0.01	-0.03	-0.08	0.02	0.236	-0.07	-0.03	-0.07	0.01	0.122	-0.10
Family Time (16-117 per week)	0.01	-0.03	0.04	0.755	0.03	-0.01	-0.05	0.02	0.510	-0.05	-0.02	-0.04	0.01	0.243	-0.08
Mom Time (0-62 per week)	0.00	-0.01	0.01	0.890	-0.01	0.00	-0.01	0.01	0.784	0.03	0.00	-0.01	0.01	0.971	0.00
Dad Time (0-41 per week)	0.00	-0.01	0.01	0.976	0.00	0.00	-0.01	0.01	0.941	0.01	0.00	-0.01	0.01	0.775	0.03
Adolescent's Familism (1-5)	0.02	-0.04	0.08	0.426	0.04	0.07	-0.03	0.16	0.161	0.07	0.02	-0.06	0.10	0.666	0.02
Mom's Familism (2.7-5)	-0.01	-0.06	0.03	0.547	-0.03	0.01	-0.11	0.14	0.832	0.02	0.00	-0.10	0.09	0.946	-0.01
Dad's Familism (2.8-5)	0.01	-0.02	0.04	0.508	0.03	-0.03	-0.09	0.04	0.407	-0.05	0.01	-0.04	0.07	0.651	0.03
<u>Change Over Time (slopes)</u>															
Mom's Warmth	-0.82	-1.23	-0.40	0.000	-0.20	0.08	-0.42	0.58	0.742	0.01	0.19	-0.07	0.45	0.149	0.04
Dad's Warmth	-0.19	-0.48	0.10	0.206	-0.07	-0.19	-0.52	0.15	0.277	-0.05	-0.21	-0.40	-0.02	0.029	-0.07
Family Time	0.01	-0.02	0.03	0.708	0.03	0.01	-0.01	0.04	0.224	0.07	0.02	0.00	0.03	0.046	0.10
<i>Covariates</i>															
Adolescent Age (years)	0.00	0.00	0.01	0.282	0.05	0.00	-0.01	0.01	0.577	0.02	0.00	-0.01	0.00	0.590	-0.02
Mom Age (years)	0.00	0.00	0.00	0.606	-0.02	0.00	-0.01	0.00	0.668	-0.03					
Dad Age (years)											0.00	0.00	0.00	0.518	0.04
Adolescent Female	0.02	0.00	0.04	0.041	0.10	-0.02	-0.05	0.02	0.365	-0.05	-0.02	-0.05	0.02	0.335	-0.06
English Interview	-0.01	-0.03	0.02	0.660	-0.02	0.03	-0.01	0.08	0.120	0.08	-0.02	-0.06	0.02	0.302	-0.06
Adolescent Years in US (0-21)	0.00	0.00	0.00	0.587	-0.03	0.00	-0.01	0.00	0.616	-0.03	0.00	0.00	0.00	0.739	-0.02
Mom Not US Born	0.01	-0.01	0.04	0.370	0.05	0.04	-0.01	0.10	0.116	0.12					
Dad Not US Born											0.01	-0.03	0.05	0.670	0.03
HH Income (\$1,000)	0.00	0.00	0.00	0.835	-0.01	0.00	0.00	0.00	0.032	-0.13	0.00	0.00	0.00	0.658	-0.06
HH Size (4-15)	0.00	0.00	0.01	0.639	0.02	0.00	-0.01	0.02	0.583	0.04	0.00	-0.01	0.01	0.598	-0.03
Mom Education (years)	0.00	0.00	0.01	0.117	0.08	0.00	-0.01	0.01	0.836	0.02					
Dad Education (years)											0.00	0.00	0.01	0.620	0.04
Health Insurance	-0.02	-0.05	0.01	0.145	-0.08	0.01	-0.03	0.05	0.696	0.02	-0.03	-0.06	0.00	0.074	-0.10
Adolescent Health (1-5)	-0.03	-0.05	-0.02	0.000	-0.27	-0.03	-0.05	-0.01	0.002	-0.17	-0.01	-0.03	0.00	0.048	-0.11
R ²	0.247					0.119					0.093				

NOTE: Slope effects for all familism variables, time with mom, and time with dad were omitted due to no inter-individual variance. Bolded values indicate significance.

Table D4.*Adolescent Mental Health Care Associations with Family Strengths, Family Members'**Depression, and Covariates (f=246, y=492, o=1,476)*

	Adolescents' Mental Health Care				
	OR	95% CI		p-value	Beta
<i>Family Depressive Symptoms</i>					
Adolescents' Depressive Symptoms (0-53)	1.04	1.01	1.08	0.012	0.18
Mom's Depressive Symptoms (0-52)	1.03	0.99	1.07	0.123	0.14
Dad's Depressive Symptoms (0-52)	1.01	0.96	1.05	0.823	0.02
<i>Family Strengths</i>					
Mom's Warmth (1-5)	0.72	0.45	1.15	0.167	-0.12
Dad's Warmth (1-5)	0.83	0.52	1.31	0.411	-0.08
Family Time (16-117 per week)	1.02	1.00	1.04	0.012	0.16
Mom Time (0-62 per week)	0.99	0.96	1.03	0.756	-0.03
Dad Time (0-41 per week)	0.97	0.91	1.03	0.356	-0.10
Adolescent's Familism (1-5)	1.47	0.65	3.30	0.352	0.09
Mom's Familism (2.7-5)	1.59	0.48	5.25	0.446	0.08
Dad's Familism (2.8-5)	1.07	0.28	4.12	0.921	0.01
<i>Covariates</i>					
Adolescent Age (years)	0.88	0.76	1.01	0.059	-0.21
Mom Age (years)	1.09	0.98	1.21	0.126	0.20
Adolescent Female	2.65	0.95	7.43	0.064	0.21
English Interview	0.19	0.03	1.14	0.070	-0.27
Adolescent Years in US (0-21)	1.10	0.94	1.28	0.246	0.17
Mom Not US Born	2.47	0.88	6.90	0.085	0.18
HH Income (\$1,000)	1.01	1.00	1.02	0.018	0.19
HH Size (4-15)	0.98	0.76	1.26	0.875	-0.01
Mom Education (years)	1.18	1.02	1.37	0.024	0.27
Health Insurance	0.93	0.31	2.78	0.898	-0.01
Adolescent Health (1-5)	1.44	0.91	2.28	0.124	0.15
psuedo R ²	0.367				

NOTE: Bolded values indicate significance.

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